					ST DEPARTMENT DIVISION C		TURAL RESO				AMENI	FO DED REPOR	RM 3	
		AP	PLICATION F	OR PE	ERMIT TO DRILL					1. WELL NAME and N	JMBER NBU 102	22-1I1BS		
2. TYPE O	F WORK	DRILL NEW WELL	REENTE	R P&A V	WELL DEEPEN	WELL (	)			3. FIELD OR WILDCAT	Γ NATURAL	.BUTTES		
4. TYPE O	F WELL				I Methane Well: NO		*			5. UNIT or COMMUNI	FIZATION NATURAL		ENT NAM	1E
6. NAME C	F OPERATOR				S ONSHORE, L.P.					7. OPERATOR PHONE				
8. ADDRE	SS OF OPERATO	OR								9. OPERATOR E-MAIL	-			
	AL LEASE NUM	BER	P.O. Box 1737		ver, CO, 80217  1. MINERAL OWNERS	SHIP				12. SURFACE OWNER		anadarko	com	
		UTU-011336			FEDERAL INC	DIAN 🔵	STATE (	) FEE(		-	DIAN 🦲	STATE	~~	EE 🔘
13. NAME	OF SURFACE	OWNER (if box 12 =	= 'fee')							14. SURFACE OWNER	R PHONE	(if box 12	= 'fee')	
15. ADDR	ESS OF SURFA	CE OWNER (if box	12 = 'fee')							16. SURFACE OWNER	R E-MAIL	(if box 12	= 'fee')	
	N ALLOTTEE OI = 'INDIAN')	R TRIBE NAME			8. INTEND TO COMM		RODUCTION	FROM		19. SLANT				
(II box 12	= INDIAN )				YES (Submit C	Commingli	ing Applicati	on) NO [	)	VERTICAL DIF	RECTION	AL 📵 H	IORIZONT	AL 🔵
20. LOCA	TION OF WELL			F001	TAGES	QTI	R-QTR	SECTI	ION	TOWNSHIP	R/	ANGE	МЕ	RIDIAN
LOCATIO	N AT SURFACE		18	326 FSL	937 FEL	N	NESE	1		10.0 S	2:	2.0 E		S
Top of U	ppermost Prod	ucing Zone	25	576 FSL	492 FEL	N	NESE	1		10.0 S	2:	2.0 E		S
At Total	Depth		2	76 FSL	492 FEL	N	NESE	1		10.0 S	2:	2.0 E		S
21. COUN	TY	UINTAH		22	2. DISTANCE TO NEA	REST LE		eet)		23. NUMBER OF ACRI	ES IN DR		IT	
					5. DISTANCE TO NEA Applied For Drilling		leted)	POOL		26. PROPOSED DEPTI		TVD: 850	9	
27. ELEV	ATION - GROUN	D LEVEL		28	8. BOND NUMBER					29. SOURCE OF DRILL WATER RIGHTS APPR			PPI ICAR	ıF
		5107				WYB00					43-8			
String	Hole Size	Casing Size	Length	Weig	Hole, Casing		ement Info			Cement		Sacks	Yield	Weight
Surf	12.25	8.625	0 - 2220	28.0			0.2			Type V		180	1.15	15.8
										Class G		270	1.15	15.8
Prod	7.875	4.5	0 - 8642	11.0	6 I-80 LT8	&C	12.	5	Prer	nium Lite High Strer	ngth	280	3.38	11.0
										50/50 Poz		1180	1.31	14.3
					A	TTACH	MENTS							
	VER	IFY THE FOLLO	WING ARE AT	TACH	IED IN ACCORDAN	ICE WIT	H THE UTA	AH OIL AN	D GAS	CONSERVATION G	ENERA	L RULES		
<b>₩</b> w	ELL PLAT OR M	AP PREPARED BY L	LICENSED SUR	EYOR (	OR ENGINEER		СОМ	PLETE DRIL	LING P	LAN				
AF	FIDAVIT OF STA	TUS OF SURFACE	OWNER AGREE	MENT (	(IF FEE SURFACE)		FORM	1 5. IF OPER	ATOR I	S OTHER THAN THE LE	EASE OW	NER		
<b>☑</b> DIF	RECTIONAL SUI	RVEY PLAN (IF DIR	ECTIONALLY O	R HORI	IZONTALLY DRILLED	))	торо	GRAPHICA	L MAP					
NAME Gi	na Becker			TI	TLE Regulatory Analy	rst II			PHON	<b>E</b> 720 929-6086				
SIGNATU	RE			DA	ATE 02/03/2012				EMAIL	gina.becker@anadark	o.com			
	BER ASSIGNED )4752368(	0000		AF	PPROVAL				B	osejill				
									Pern	nit Manager				

NBU 1022-1I Pad Drilling Program
1 of 7

# Kerr-McGee Oil & Gas Onshore. L.P.

### NBU 1022-111BS

Surface: 1826 FSL / 937 FEL NESE BHL: 2576 FSL / 492 FEL NESE

Section 1 T10S R22E

Uintah County, Utah Mineral Lease: UTU-011336

### **ONSHORE ORDER NO. 1**

### **DRILLING PROGRAM**

# 1. & 2. <u>Estimated Tops of Important Geologic Markers</u>: <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1138	
Birds Nest	1403	Water
Mahogany	1767	Water
Wasatch	4175	Gas
Mesaverde	6359	Gas
MVU2	7324	Gas
MVL1	7896	Gas
TVD	8509	
TD	8642	

### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

### 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Drilling Program

### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program

### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program

NBU 1022-1I Pad Drilling Program 2 of 7

### 7. <u>Abnormal Conditions</u>:

Maximum anticipated bottom hole pressure calculated at 8509' TVD, approximately equals 5,446 psi 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,562 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

### 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

### 9. <u>Variances:</u>

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

NBU 1022-1I Pad Drilling Program
3 of 7

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

### **Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KM well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

NBU 1022-1I Pad Drilling Program
4 of 7

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

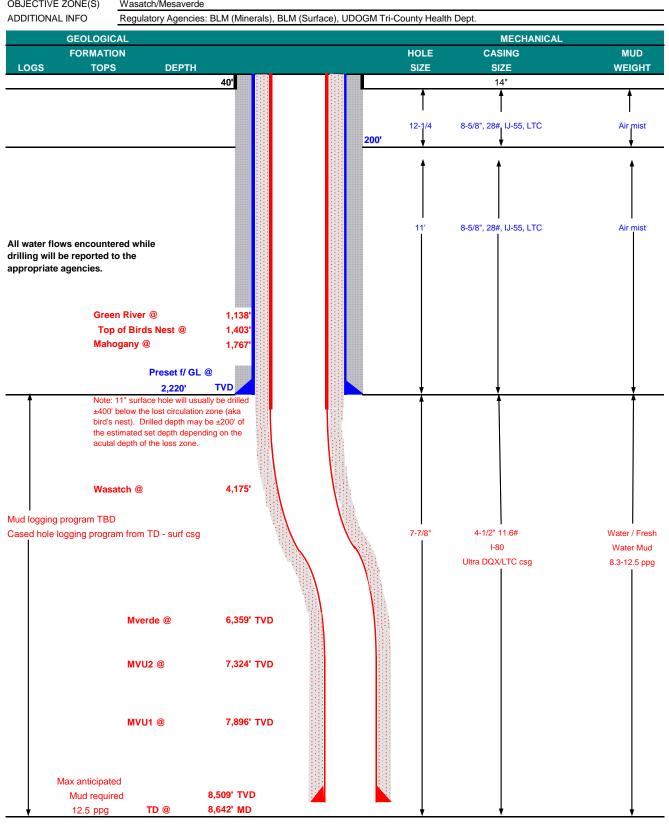
### 10. <u>Other Information:</u>

Please refer to the attached Drilling Program.



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME KERR-McGEE OIL & GAS ONSHORE LP DATE October 6, 2011 NBU 1022-111BS WELL NAME TD 8,509' TVD 8,642' MD FIELD FINISHED ELEVATION Natural Buttes COUNTY Uintah STATE Utah 5106.7 SURFACE LOCATION NESE 1826 FSL 937 FEL Sec 1 T 10S R 22E Latitude: 39.975679 Longitude: -109.382156 **NAD 83** BTM HOLE LOCATION NESE 2576 FSL 492 FEL T 10S R 22E Sec 1 Latitude: 39.977729 Longitude: -109.380557 **NAD 83** OBJECTIVE ZONE(S) Wasatch/Mesaverde





### KERR-McGEE OIL & GAS ONSHORE LP

### **DRILLING PROGRAM**

CASING PROGRAM	<u>l</u>								DESIGN	FACTORS	
										LTC	DQX
	SIZE	INTE	RVAL		WT.	GR.	CPLG.	BURST	COLL	APSE	TENSION
CONDUCTOR	14"	0	-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,220	28.00	IJ-55	LTC	2.44	1.81	6.39	N/A
								7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.15		3.29
	4-1/2"	5,000	to	8,642'	11.60	I-80	LTC	1.11	1.15	6.52	

**Surface Casing:** 

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGH1	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	to surface,	option 2 wil	l be utilized	
Option 2 LEAD	1,720'	65/35 Poz + 6% Gel + 10 pps gilsonite	160	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	3,672'	Premium Lite II +0.25 pps	280	20%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	4,970'	50/50 Poz/G + 10% salt + 2% gel	1,180	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000 minimum inte	rvais.

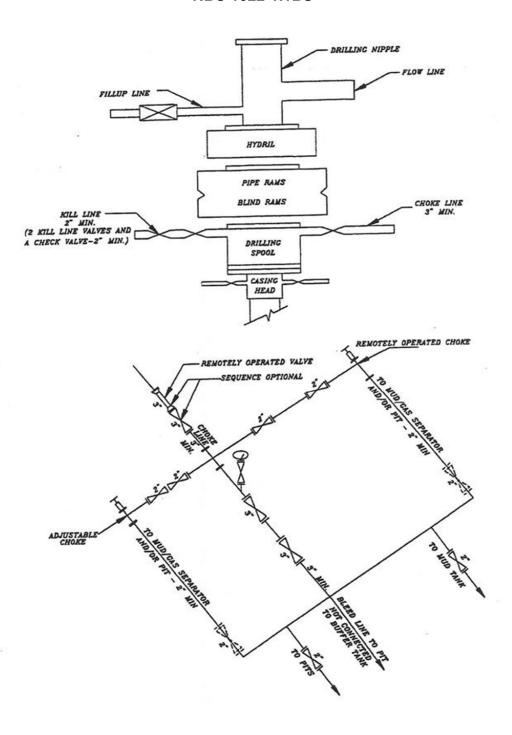
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:		DATE:	
	Nick Spence / Danny Showers / Chad Loesel	_	
DRILLING SUPERINTENDENT:		DATE:	

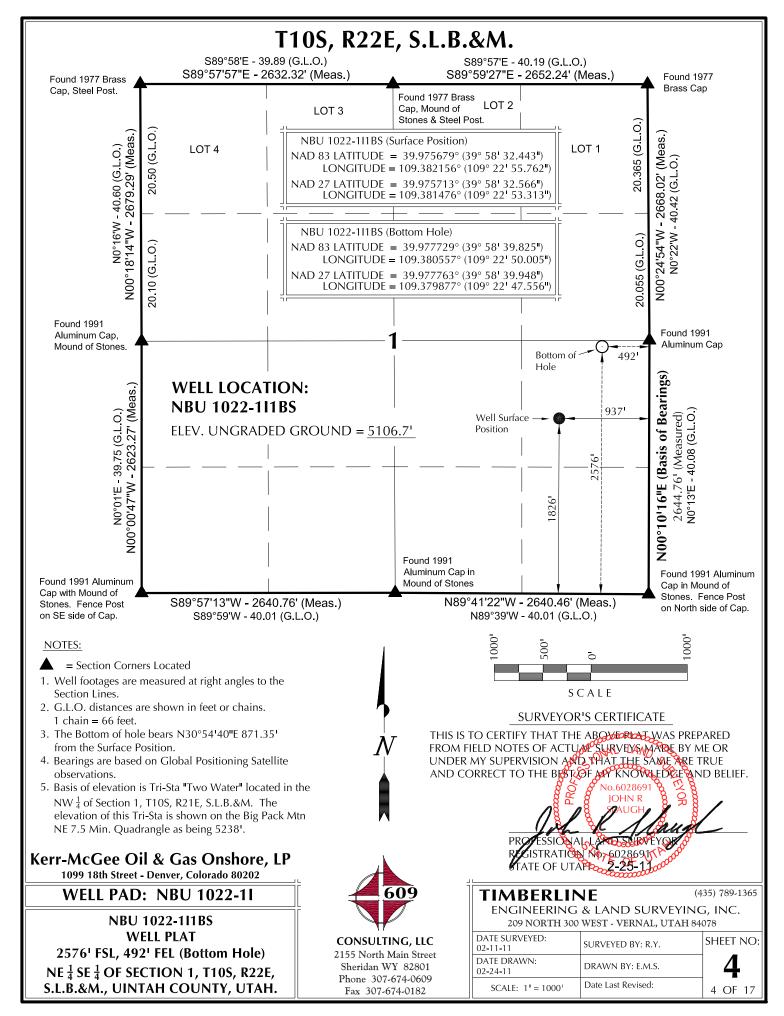
Kenny Gathings / Lovel Young

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

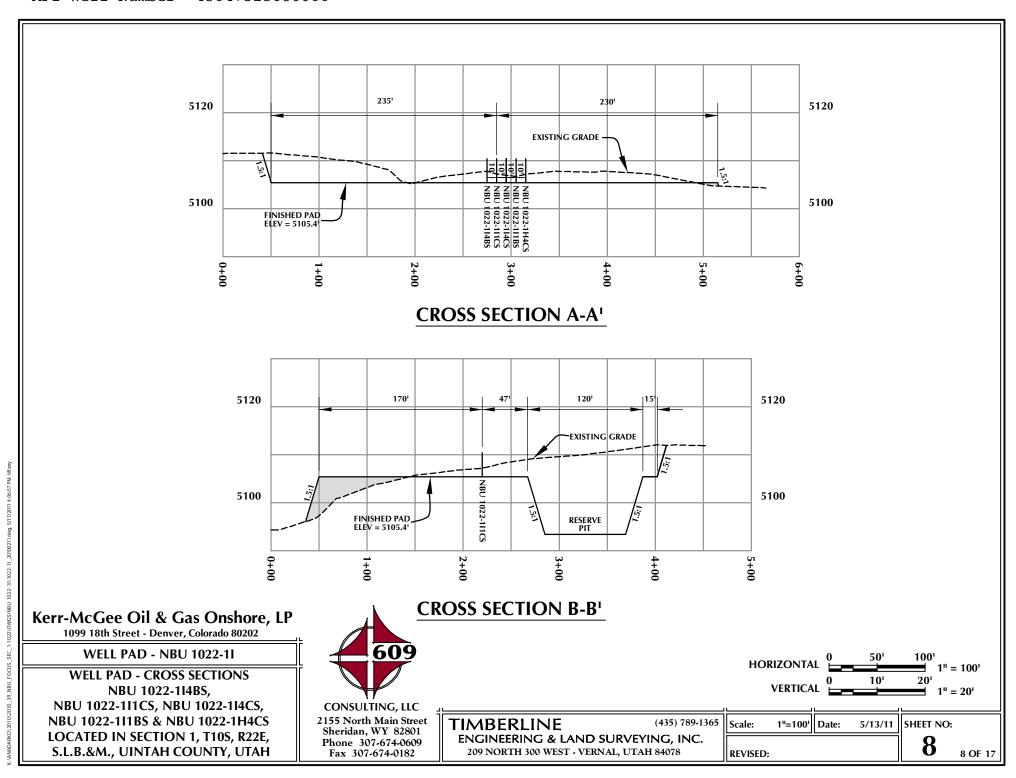
# EXHIBIT A NBU 1022-111BS

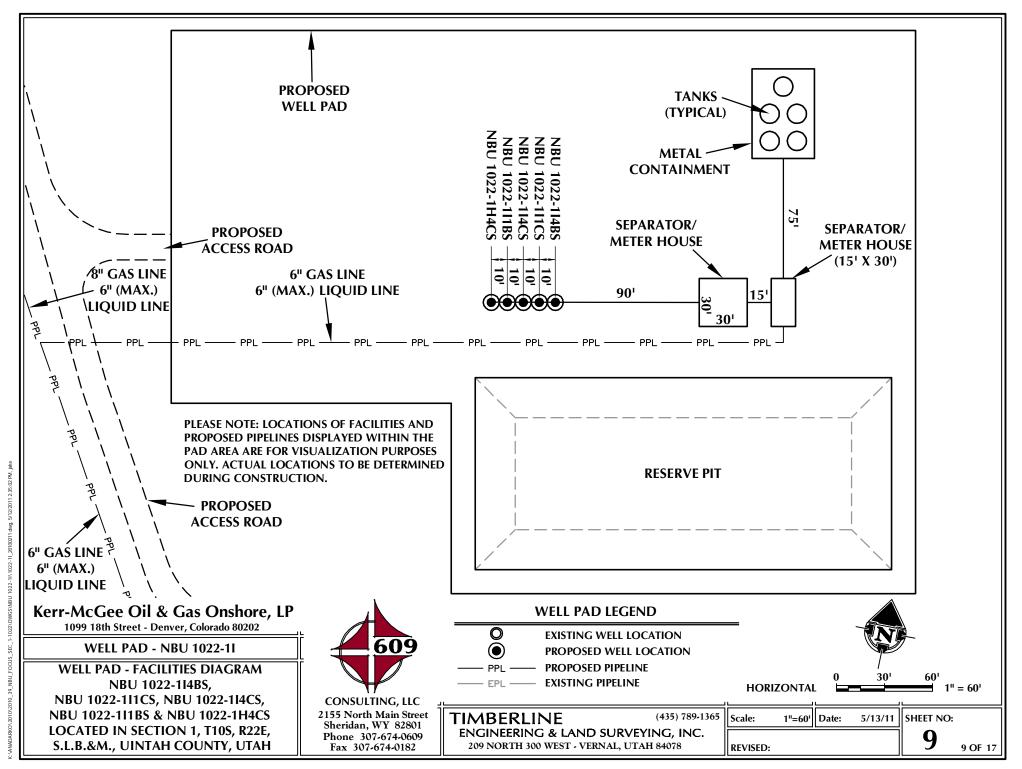


SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



			SURFACE P	OSITION					В	OTTOM HOLE		
WELL NAME		D83		NAD27				NAD	83	NAI		
N.D.	LATITUDE	LONGITU			LONGITUDE		LATIT		LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-114BS	39°58'32.500' 39.975694°	109°22'55. 109.38205		1.5	09°22'52.933" 09.381370°	1832' FSL 908' FEL	39°58'3 39.9759		109°22'50.526" 109.380702°	39°58'33.410" 39.975947°	109°22'48.077" 109.380021°	1914' FSL 530' FEL
NBU	39°58'32.482'		509" 39°58'3	32.605" 1	09°22'53.060"	1830' FSL	39°58'3	36.535" [	109.300702 109°22'50.021"	39°58'36.658"	109°22'47.572"	
1022-111CS	39.975689°	109.38208	6° 39.975	724° 1	09.381405°	918' FEL	39.9768	815° (	109.380562°	39.976849°	109.379881°	492' FEL
NBU 1022-114CS	39°58'32.464' 39.975684°	109°22'55. 109.38212	I		09°22'53.187" 09.381441°	1828' FSL 928' FEL	39°58'2 39.9749		109°22'50.055" 109.380571°	39°58'30.098" 39.975027°	109°22'47.606" 109.379891°	1579' FSL 492' FEL
NBU	39°58'32.443'				09°22'53.313"	1826¹ FSL	39°58'3		109:380371 109°22'50.005"	39°58'39.948"	109.37 9091 109°22'47.556"	2576' FSL
1022-111BS	39.975679°	109.38215	6° 39.975	713° 1	09.381476°	937' FEL	39.9777	729° -	109.380557°	39.977763°	109.379877°	492' FEL
NBU 1022-1H4CS	39°58'32.425' 39.975674°	109°22'55. 109.38219		1.5	09°22'53.439" 09.381511°	1824' FSL 947' FEL	39°58'4 39.9786		109°22'50.022" 109.380562°	39°58'43.150" 39.978653°	109°22'47.573" 109.379881°	2410' FNL 492' FEL
1022-111703	JJ.J/JU/T	109.30219			OORDINATES -					55.570033	103.373001	TJ4 IEL
WELL NAME	NORTH	EAST	WELL NAM				NAME	NORT		WELL NAM	NORTH	EAST
NBU	80.0'	378.1	NBU	410		nBU		-251.0		NBU	747.6	447.6'
1022-114BS			1022-111CS		720.	1022-1	14CS	231.	13 1.0	1022-111BS	7 17.10	117.0
WELL NAME NBU	NORTH	EAST										,
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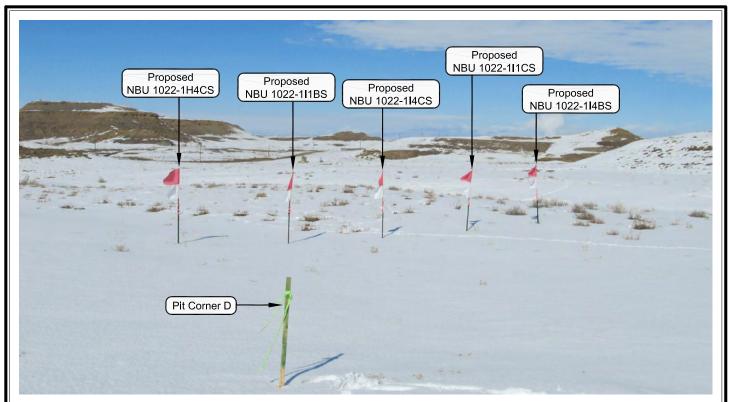


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE





PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

**CAMERA ANGLE: SOUTHEASTERLY** 

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

### **WELL PAD - NBU 1022-11**

**LOCATION PHOTOS** NBU 1022-114BS, NBU 1022-111CS, NBU 1022-114CS, NBU 1022-111BS & NBU 1022-1H4CS LOCATED IN SECTION 1, T10S, R22E, S.L.B.&M., UINTAH COUNTY, UTAH.



# CONSULTING, LLC Sheridan WY 82801

2155 North Main Street Phone 307-674-0609 Fax 307-674-0182

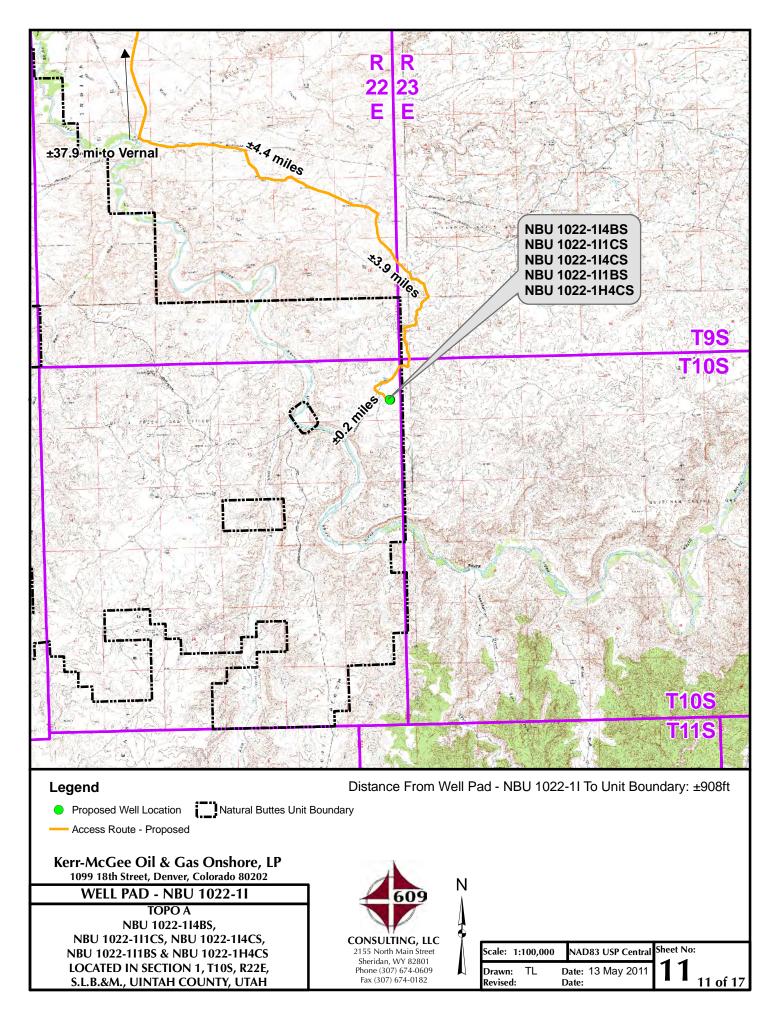
T	IM	BE	RL	.11	١E	
	ENIC	TINIE	CDIN	10	0 1	,

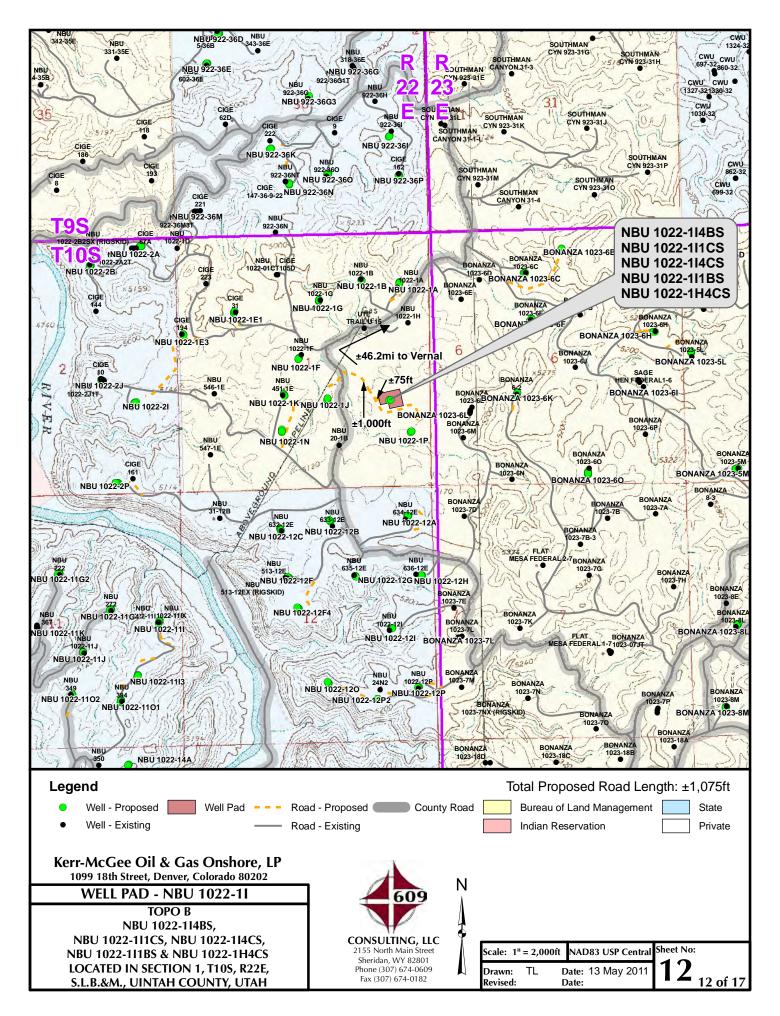
(435) 789-1365

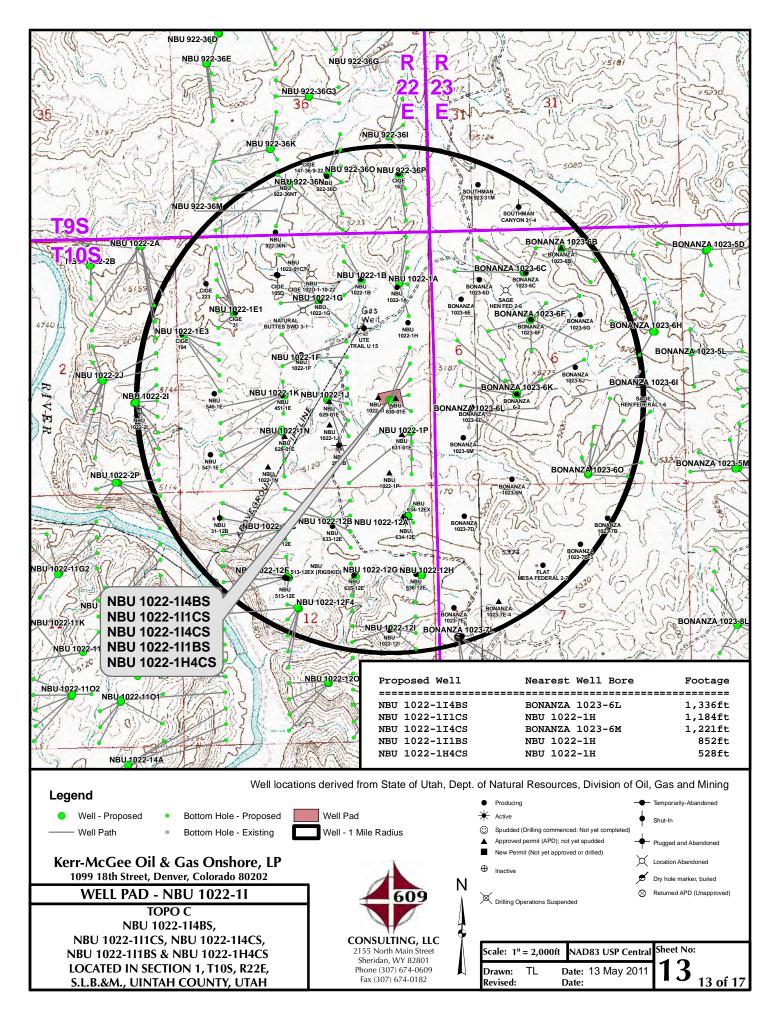
10 OF 17

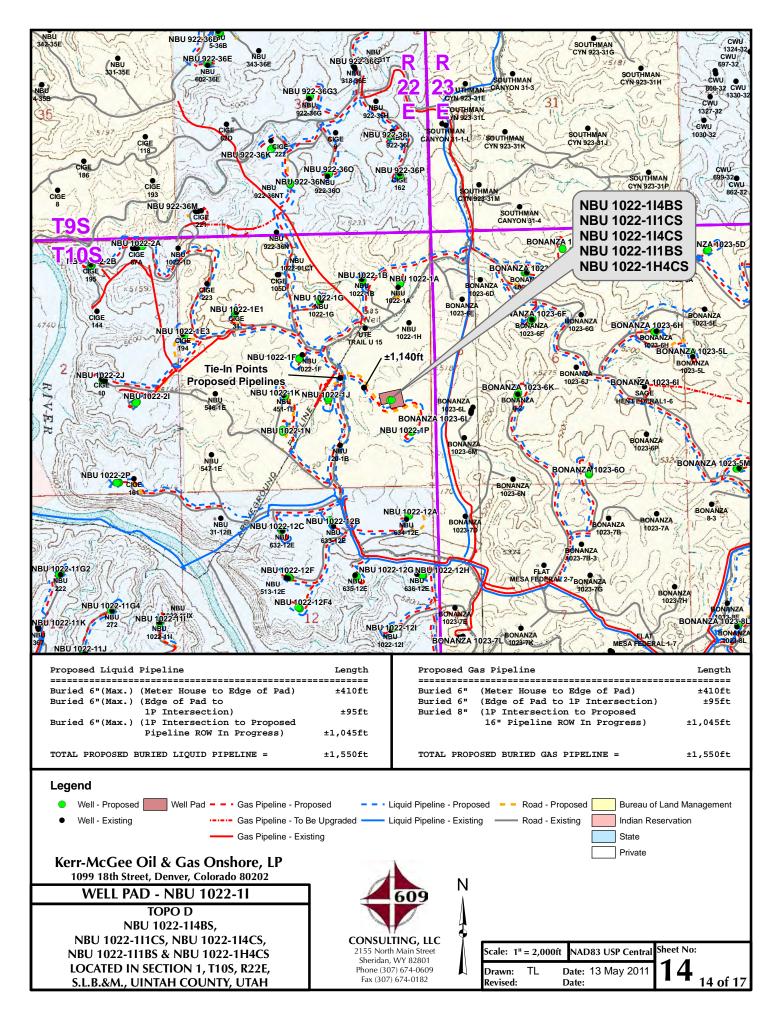
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

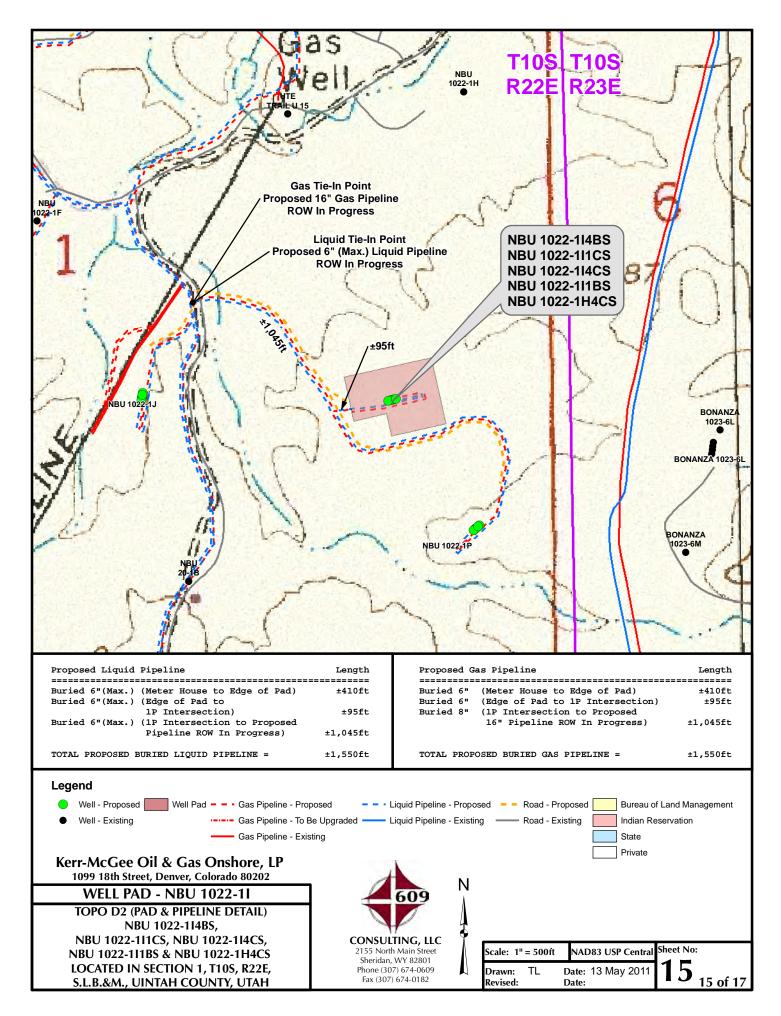
ı	DATE PHOTOS TAKEN: 02-11-11	PHOTOS TAKEN BY: R.Y.	SHEET NO:
ı	DATE DRAWN: 02-23-11	DRAWN BY: E.M.S.	10
	Date Last Revised:		10 OF 17

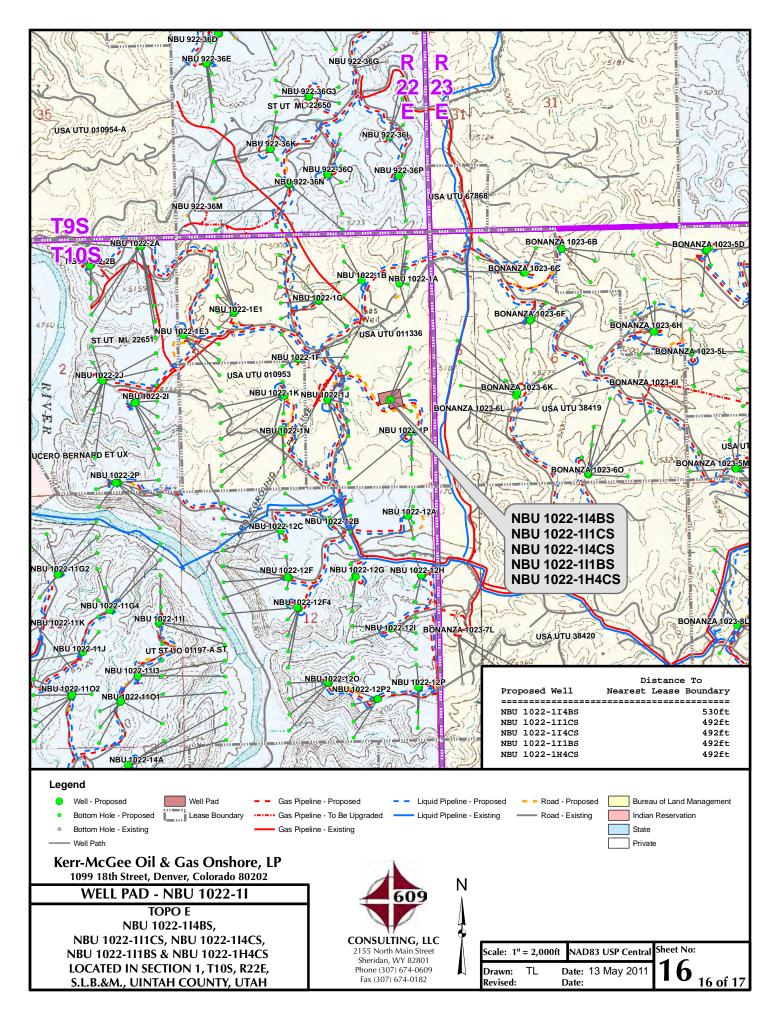












Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 1022-1I WELLS – NBU 1022-1I4BS, NBU 1022-1I1CS, NBU 1022-1I4CS, NBU 1022-1I1BS & NBU 1022-1H4CS Section 1, T10S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 14.4 miles to the intersection of the Fidlar Road (County B Road 3410) which road intersection is approximately 400 feet northeast of the Mountain Fuel Bridge at the White River. Exit left and proceed in a southeasterly direction along the Fidlar Road approximately 4.4 miles to the intersection of the Seven Sisters Road (County B Road 3420). Exit right and proceed in a southeasterly, then southerly direction along the Seven Sisters Road approximately 3.9 miles to a proposed access road to the southeast. Follow road flags in a southeasterly direction approximately 1,000 feet to a second proposed access road to the southeast. Follow road flags in a southeasterly direction approximately 75 feet to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 46.4 miles in a southerly direction.

**SHEET 17 OF 17** 

API Well Number: 43047 5203668 0007000 - UTM (feet), NAD27, Zone 12N

Scientific Drilling

Rocky Mountain Operations

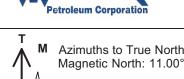
Vertical Section at 30.97° (1500 ft/in)

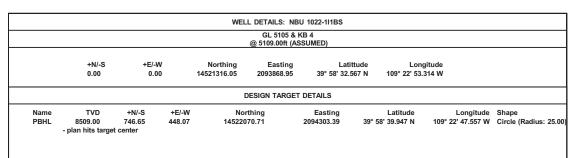
Site: NBU 1022-11 PAD Well: NBU 1022-111BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

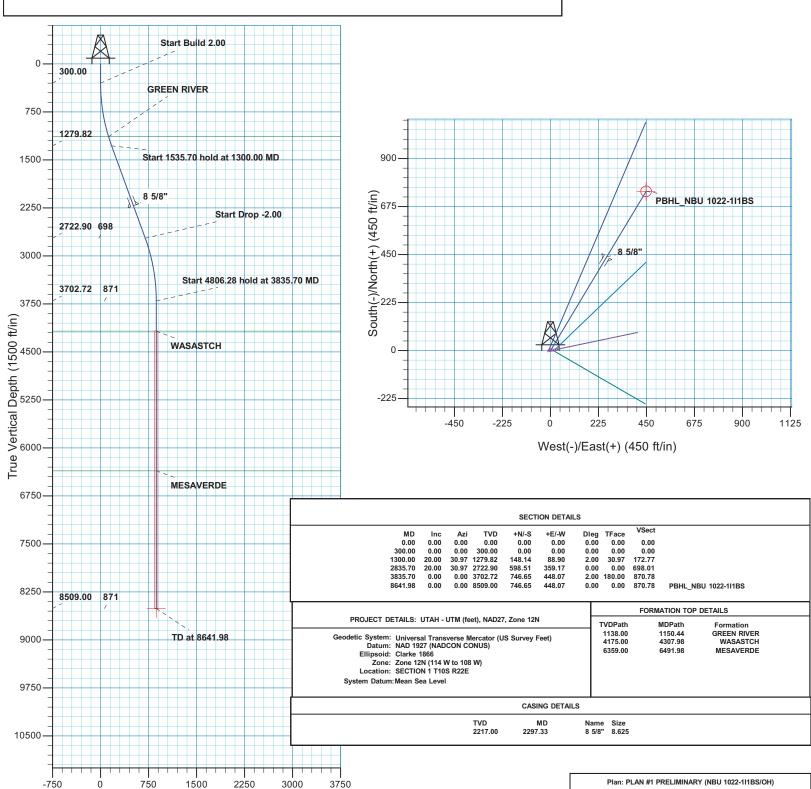






Azimuths to True North
Magnetic North: 11.00°

Magnetic Field
Strength: 52313.8snT
Dip Angle: 65.87°
Date: 08/18/2011
Model: IGRF2010



Created By: RobertScott

Date: 11:00, August 18 2011



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 1022-1I PAD NBU 1022-1I1BS

OH

Plan: PLAN #1 PRELIMINARY

# **Standard Planning Report**

18 August, 2011





# SDI Planning Report



EDM5000-RobertS-Local Database:

Company: US ROCKIES REGION PLANNING **TVD Reference:** 

MD Reference:

North Reference:

Well NBU 1022-111BS GL 5105 & KB 4

Project: UTAH - UTM (feet), NAD27, Zone 12N

@ 5109.00ft (ASSUMED) GL 5105 & KB 4

@ 5109.00ft (ASSUMED)

Site: NBU 1022-1I PAD Well: NBU 1022-111BS

Wellbore: ОН **Survey Calculation Method:** 

Local Co-ordinate Reference:

Design: PLAN #1 PRELIMINARY Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:

Universal Transverse Mercator (US Survey Feet) System Datum:

Mean Sea Level

NAD 1927 (NADCON CONUS) Geo Datum: Zone 12N (114 W to 108 W) Map Zone:

NBU 1022-1I PAD, SECTION 1 T10S R22E Site

Northing: 14,521,314.05 usft Site Position: Latitude: 39° 58' 32.549 N From: Lat/Long Easting: 2,093,859.18 usft Longitude: 109° 22' 53.440 W

0.00 ft Slot Radius: 13.200 in **Grid Convergence:** 1.04° **Position Uncertainty:** 

Well NBU 1022-111BS, 1826 FSL 937 FEL

**Well Position** 1.82 ft 14,521,316.05 usft 39° 58' 32.567 N +N/-S Northing: Latitude:

+E/-W 9.81 ft Easting: 2,093,868.95 usft Longitude: 109° 22' 53.314 W

**Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 5.105.00 ft

Wellbore ОН Field Strength Magnetics **Model Name** Sample Date Declination Dip Angle (°) (°) (nT) IGRF2010 08/18/11 11.00 65.87 52,314

PLAN #1 PRELIMINARY Design **Audit Notes:** PLAN 0.00 Version: Phase: Tie On Depth: Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°)

0.00

0.00

0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	30.97	1,279.82	148.14	88.90	2.00	2.00	0.00	30.97	
2,835.70	20.00	30.97	2,722.90	598.51	359.17	0.00	0.00	0.00	0.00	
3,835.70	0.00	0.00	3,702.72	746.65	448.07	2.00	-2.00	0.00	180.00	
8,641.98	0.00	0.00	8,509.00	746.65	448.07	0.00	0.00	0.00	0.00 P	BHL_NBU 1022-111

30.97



Company:

# **SDI** Planning Report



Database: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 1022-1I PAD

 Well:
 NBU 1022-1I1BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Well NBU 1022-111BS GL 5105 & KB 4

@ 5109.00ft (ASSUMED) GL 5105 & KB 4

@ 5109.00ft (ASSUMED)

True

Minimum Curvature

ed Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build	2.00								
400.00	2.00	30.97	399.98	1.50	0.90	1.75	2.00	2.00	0.00
500.00	4.00	30.97	499.84	5.98	3.59	6.98	2.00	2.00	0.00
600.00		30.97	599.45	13.46	8.08	15.69	2.00	2.00	0.00
700.00		30.97	698.70						
				23.91	14.35	27.88	2.00	2.00	0.00
800.00		30.97	797.47	37.32	22.39	43.52	2.00	2.00	0.00
900.00	12.00	30.97	895.62	53.68	32.21	62.60	2.00	2.00	0.00
1,000.00	14.00	30.97	993.06	72.97	43.79	85.10	2.00	2.00	0.00
1,100.00		30.97	1,089.64	95.16	57.10	110.98	2.00	2.00	0.00
1,150.44		30.97	1,138.00	107.44	64.48	125.31	2.00	2.00	0.00
GREEN RI									
1,200.00		30.97	1,185.27	120.23	72.15	140.21	2.00	2.00	0.00
1,300.00		30.97	1,279.82	148.14	88.90	172.77	2.00	2.00	0.00
			1,273.02	140.14	00.50	172.77	2.00	2.00	0.00
Start 1535.	70 hold at 1300.00	) MD							
1,400.00	20.00	30.97	1,373.78	177.47	106.50	206.97	0.00	0.00	0.00
1,500.00		30.97	1,467.75	206.79	124.10	241.17	0.00	0.00	0.00
1,600.00		30.97	1,561.72	236.12	141.70	275.37	0.00	0.00	0.00
1,700.00		30.97	1,655.69	265.45	159.29	309.58	0.00	0.00	0.00
1,800.00		30.97	1,749.66	294.77	176.89	343.78	0.00	0.00	0.00
1,900.00		30.97	1,843.63	324.10	194.49	377.98	0.00	0.00	0.00
2,000.00		30.97	1,937.60	353.43	212.09	412.18	0.00	0.00	0.00
2,100.00		30.97	2,031.57	382.75	229.69	446.38	0.00	0.00	0.00
2,200.00		30.97	2,125.54	412.08	247.29	480.59	0.00	0.00	0.00
2,297.33	20.00	30.97	2,217.00	440.63	264.42	513.88	0.00	0.00	0.00
8 5/8"									
2,300.00	20.00	30.97	2,219.51	441.41	264.89	514.79	0.00	0.00	0.00
2,400.00		30.97	2,313.48	470.73	282.49	548.99	0.00	0.00	0.00
2,500.00		30.97	2,407.45	500.06	300.09	583.19	0.00	0.00	0.00
2,600.00		30.97	2,501.42	529.39	317.69	617.39	0.00	0.00	0.00
2,700.00		30.97	2,595.39	558.71	335.28	651.60	0.00	0.00	0.00
2,800.00		30.97	2,689.35	588.04	352.88	685.80	0.00	0.00	0.00
2,835.70		30.97	2,722.90	598.51	359.17	698.01	0.00	0.00	0.00
Start Drop									
2,900.00		30.97	2,783.57	616.79	370.13	719.32	2.00	-2.00	0.00
3,000.00		30.97	2,878.82	642.87	385.79	749.75	2.00	-2.00	0.00
3,100.00	14.71	30.97	2,975.08	666.10	399.72	776.83	2.00	-2.00	0.00
3,200.00	12.71	30.97	3,072.22	686.42	411.92	800.53	2.00	-2.00	0.00
3,300.00		30.97	3,170.13	703.83	422.37	820.84	2.00	-2.00	0.00
3,400.00		30.97	3,268.69	718.30	431.05	837.71	2.00	-2.00	0.00
3,500.00		30.97	3,367.78	718.30	437.96	851.13	2.00	-2.00	0.00
3,600.00		30.97	3,467.28	738.34	443.08	861.09	2.00	-2.00	0.00
3,000.00	4.11	30.87		130.34	443.00	001.08	2.00		0.00
3,700.00	2.71	30.97	3,567.07	743.90	446.41	867.56	2.00	-2.00	0.00
3,800.00	0.71	30.97	3,667.02	746.46	447.95	870.55	2.00	-2.00	0.00
3,835.70	0.00	0.00	3,702.72	746.65	448.07	870.78	2.00	-2.00	0.00
Start 4806.	28 hold at 3835.70	) MD							
3,900.00		0.00	3,767.02	746.65	448.07	870.78	0.00	0.00	0.00
4,000.00		0.00	3,867.02	746.65	448.07	870.78	0.00	0.00	0.00
.,000.00	0.00	0.00	-,				0.00	0.00	0.00



Company:

# **SDI** Planning Report



Database: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 1022-11 PAD

 Well:
 NBU 1022-111BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Well NBU 1022-111BS

GL 5105 & KB 4

@ 5109.00ft (ASSUMED) GL 5105 & KB 4

@ 5109.00ft (ASSUMED) True

Minimum Curvature

ned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00	0.00	0.00	3,967.02	746.65	448.07	870.78	0.00	0.00	0.00
4,200.00	0.00	0.00	4,067.02	746.65	448.07	870.78	0.00	0.00	0.00
4,300.00	0.00	0.00	4,167.02	746.65	448.07	870.78	0.00	0.00	0.00
,			,						
4,307.98	0.00	0.00	4,175.00	746.65	448.07	870.78	0.00	0.00	0.00
WASASTCH									
4,400.00	0.00	0.00	4,267.02	746.65	448.07	870.78	0.00	0.00	0.00
4,500.00	0.00	0.00	4,367.02	746.65	448.07	870.78	0.00	0.00	0.00
			,						
4,600.00	0.00	0.00	4,467.02	746.65	448.07	870.78	0.00	0.00	0.00
4,700.00	0.00	0.00	4,567.02	746.65	448.07	870.78	0.00	0.00	0.00
4,800.00	0.00	0.00	4,667.02	746.65	448.07	870.78	0.00	0.00	0.00
4,900.00	0.00	0.00	4,767.02	746.65	448.07	870.78	0.00	0.00	0.00
E 000 00	0.00	0.00	4 867 00	7/6 65	448.07	870.78	0.00	0.00	0.00
5,000.00		0.00	4,867.02	746.65			0.00		
5,100.00	0.00	0.00	4,967.02	746.65	448.07	870.78	0.00	0.00	0.00
5,200.00	0.00	0.00	5,067.02	746.65	448.07	870.78	0.00	0.00	0.00
5,300.00	0.00	0.00	5,167.02	746.65	448.07	870.78	0.00	0.00	0.00
5,400.00	0.00	0.00	5,267.02	746.65	448.07	870.78	0.00	0.00	0.00
E E00 00	0.00	0.00	E 207.00	740.05	440.07	070 70	0.00	0.00	0.00
5,500.00	0.00	0.00	5,367.02	746.65	448.07	870.78		0.00	0.00
5,600.00	0.00	0.00	5,467.02	746.65	448.07	870.78	0.00	0.00	0.00
5,700.00	0.00	0.00	5,567.02	746.65	448.07	870.78	0.00	0.00	0.00
5,800.00	0.00	0.00	5,667.02	746.65	448.07	870.78	0.00	0.00	0.00
5,900.00	0.00	0.00	5,767.02	746.65	448.07	870.78	0.00	0.00	0.00
0.000.00	0.00	0.00	5 007 00	740.05	440.07	070.70	0.00	0.00	0.00
6,000.00	0.00	0.00	5,867.02	746.65	448.07	870.78	0.00	0.00	0.00
6,100.00	0.00	0.00	5,967.02	746.65	448.07	870.78	0.00	0.00	0.00
6,200.00	0.00	0.00	6,067.02	746.65	448.07	870.78	0.00	0.00	0.00
6,300.00	0.00	0.00	6,167.02	746.65	448.07	870.78	0.00	0.00	0.00
6,400.00	0.00	0.00	6,267.02	746.65	448.07	870.78	0.00	0.00	0.00
0.404.00	0.00	0.00	0.050.00	740.05	440.07	070.70	0.00	0.00	0.00
6,491.98	0.00	0.00	6,359.00	746.65	448.07	870.78	0.00	0.00	0.00
MESAVERD									
6,500.00	0.00	0.00	6,367.02	746.65	448.07	870.78	0.00	0.00	0.00
6,600.00	0.00	0.00	6,467.02	746.65	448.07	870.78	0.00	0.00	0.00
6,700.00	0.00	0.00	6,567.02	746.65	448.07	870.78	0.00	0.00	0.00
6,800.00	0.00	0.00	6,667.02	746.65	448.07	870.78	0.00	0.00	0.00
6,900.00	0.00	0.00	6,767.02	746.65	448.07	870.78	0.00	0.00	0.00
7,000.00	0.00	0.00	6,867.02	746.65	448.07	870.78	0.00	0.00	0.00
7,100.00	0.00	0.00	6,967.02	746.65	448.07	870.78	0.00	0.00	0.00
7,200.00	0.00	0.00	7,067.02	746.65	448.07	870.78	0.00	0.00	0.00
7,300.00	0.00	0.00	7,167.02	746.65	448.07	870.78	0.00	0.00	0.00
7,400.00	0.00	0.00	7,267.02	746.65	448.07	870.78	0.00	0.00	0.00
7,500.00	0.00	0.00	7,367.02	746.65	448.07	870.78	0.00	0.00	0.00
7,600.00	0.00	0.00	7,467.02	746.65	448.07	870.78	0.00	0.00	0.00
7,700.00	0.00	0.00	7,567.02	746.65	448.07	870.78	0.00	0.00	0.00
7,800.00	0.00	0.00	7,667.02	746.65	448.07	870.78	0.00	0.00	0.00
			•						
7,900.00	0.00	0.00	7,767.02	746.65	448.07	870.78	0.00	0.00	0.00
8,000.00	0.00	0.00	7,867.02	746.65	448.07	870.78	0.00	0.00	0.00
8,100.00	0.00	0.00	7,967.02	746.65	448.07	870.78	0.00	0.00	0.00
8,200.00	0.00	0.00	8,067.02	746.65	448.07	870.78	0.00	0.00	0.00
8,300.00	0.00	0.00	8,167.02	746.65	448.07	870.78	0.00	0.00	0.00
3,300.00	0.00	0.00	0,107.02	1 +0.03	740.07	010.10	0.00	0.00	0.00
8,400.00	0.00	0.00	8,267.02	746.65	448.07	870.78	0.00	0.00	0.00
8,500.00	0.00	0.00	8,367.02	746.65	448.07	870.78	0.00	0.00	0.00
8,600.00	0.00	0.00	8,467.02	746.65	448.07	870.78	0.00	0.00	0.00
8,641.98	0.00	0.00	8,509.00	746.65	448.07	870.78	0.00	0.00	0.00
5,0-1.30	0.00	0.00	5,505.00	7-10.00	<del>-, −</del> 0.01	010.10	0.00	0.00	0.00



# SDI Planning Report



Database: Company: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: NBU 1022-1I PAD

Wellbore:

NBU 1022-111BS ОН

Design:

PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

**Survey Calculation Method:** 

**TVD Reference:** 

MD Reference:

North Reference:

Well NBU 1022-111BS GL 5105 & KB 4

@ 5109.00ft (ASSUMED)

GL 5105 & KB 4

@ 5109.00ft (ASSUMED) True

Minimum Curvature

**Planned Survey** 

Measured Depth Inclination (ft) (°)

Azimuth (°)

Vertical Depth (ft)

+N/-S (ft)

+E/-W (ft)

Vertical Section (ft)

Lithology

Dogleg Rate (°/100ft)

Build Rate (°/100ft)

Turn Rate (°/100ft)

**Design Targets** 

**Target Name** - hit/miss target - Shape

Dip Angle

(°)

Dip Dir. (°)

0.00

TVD (ft) 8,509.00 +N/-S (ft) 746.65

Name

**Local Coordinates** 

448.07

Name

+E/-W

(ft)

14,522,070.71

Northing

(usft)

(usft) 2,094,303.39

Easting

Latitude 39° 58' 39.947 N Longitude

109° 22' 47.557 W

- plan hits target center - Circle (radius 25.00)

PBHL\_NBU 1022-111BS

**Casing Points** 

Measured Vertical Depth Depth (ft) (ft)

0.00

2,297.33 2,217.00 8 5/8"

Casing Hole Diameter (in)

8.625

Dip

(°)

Diameter (in)

Dip

Direction

(°)

11.000

**Formations** 

Measured Vertical Depth Depth (ft) (ft)

1,150.44 1,138.00 **GREEN RIVER** 4,307.98 4,175.00 WASASTCH 6,491.98

Vertical

6,359.00 MESAVERDE

**Plan Annotations** 

Measured

Depth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	148.14	88.90	Start 1535.70 hold at 1300.00 MD
2,835.70	2,722.90	598.51	359.17	Start Drop -2.00
3,835.70	3,702.72	746.65	448.07	Start 4806.28 hold at 3835.70 MD
8 641 98	8 509 00	746 65	448 07	TD at 8641 98

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# Kerr-McGee Oil & Gas Onshore. L.P.

# **NBU 1022-11 Pad**

<u>API #</u>	r	NBU 1022-1H4CS		
	Surface:	1824 FSL / 947 FEL	NESE	Lot
	BHL:	2410 FNL / 492 FEL	SENE	Lot
API#	Ŋ	NBU 1022-1I1BS		
AFI #	_		NECE	1 - 4
	Surface:	1826 FSL / 937 FEL	NESE	Lot
	BHL:	2576 FSL / 492 FEL	NESE	Lot
API#	NBU 1022-111CS			
<del></del>	Surface:	1830 FSL / 918 FEL	NESE	Lot
	BHL:	2243 FSL / 492 FEL	NESE	Lot
API #4304739298	Ŋ	NBU 1022-1I4BS (fka N	IRI I 630-01F)	
Al 1 # 4304737270		<u>`</u>	•	l o+
	Surface:		NESE	Lot
	BHL:	1914 FSL / 530 FEL	NESE	Lot
API#	r	NBU 1022-1I4CS		
<u> </u>	Surface:	1828 FSL / 928 FEL	- NESE	Lot
	BHL:	1579 FSL / 492 FEL	NESE	Lot

An Application for Permit to Drill (APD) was approved by the BLM on October 24, 2008 for the NBU 630-01E well location A Sundry Notice under separate cover will be submitted to change the location and the well name to the NBU 1022-1I4BS.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

### A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

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Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM. BMPs. Described in the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007) and/or BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, Kerr-McGee will adhere to the requirements of applicable Nationwide Permits of the Department of Army Corps of Engineers.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating

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conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

### The following segments are "on-lease"

 $\pm 1,075'$  (0.2 miles) – Section 1 T10S R22E (SE/4) – On-lease UTU011336, new access road from the edge of the pad to the existing road. This road will be used concurrently with the NBU 1022-1P Pad. Please refer to Topo B.

### **C.** Location of Existing Wells:

Division of Oil, Gas and Mining (UDOGM) records show no drilled locations on this pad and was verified on October 6, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accomodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

### **GAS GATHERING**

Please refer to Exhibit A and Topo D- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent).

Kerr-McGee proposes to install gas gathering lines to tie into a previously approved buried gas pipeline covered under ROW UTU-88692. The total of this proposed gas gathering from the meter to the approved 16" gas pipeline is  $\pm 1,550$ ' and the individual segments are broken up as follows:

The following segments are "onlease", no ROW needed.

±410' (0.1 miles) – Section 1 T10S R22E (NE/4 SE/4) – On-lease UTU011336, BLM surface, New 6" buried gas gathering pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

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- ±95' (0.02 miles) Section 1 T10S R22E (NE/4 SE/4) On-lease UTU011336, BLM surface, New 6" buried gas gathering pipeline from the edge of the pad to the proposed 8" buried pipeline at the NBU 1022-1P Pad intersection. Please refer to Exhibit A, Line 10.
- ±1,045' (0.2 miles) Section 1 T10S R22E (SE/4) On-lease UTU011336, BLM surface, New 8" buried gas gathering pipeline from the NBU 1022-1P Pad intersection to the tie-in at the previously approved 16" gas gathering pipeline. Please refer to Exhibit A, Line 8. This pipeline will be used concurrently with the NBU 1022-1P Pad.

Kerr-McGee proposes to install liquid gathering lines to tie into a previously approved buried liquid pipeline covered under ROW UTU-88691. The total of this proposed liquid gathering from the separator to the approved liquid pipeline is  $\pm 1,550$ ' and the individual segments are broken up as follows:

### The following segments are "onlease", no ROW needed.

- ±410' (0.1 miles) Section 1 T10S R22E (NE/4 SE/4) On-lease UTU011336, BLM surface, New 6' buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2 Pad and Pipeline Detail.
- ±95' (0.02 miles) Section 1 T10S R22E (NE/4 SE/4) On-lease UTU011336, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to the NBU 1022-1P Pad intersection. Please refer to Exhibit B, Line 10.
- ±1,045' (0.2 miles) Section 1 T10S R22E (SE/4) On-lease UTU011336, BLM surface, New 6" buried liquid gathering pipeline from the NBU 1022-1P Pad intersection to the tie-in at the previously approved liquid gathering pipeline. Please refer to Exhibit B, Line 8. This pipeline will be used concurrently with the NBU 1022-1P Pad.

### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' distrubance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent distrubance width is for maintenance and repairs. Cross country permanent distrubance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

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Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage

crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface. Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

### The Anadarko Completions Transportation System (ACTS) information:

Please refer to Exhibit C for ACTs Lines

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is disussed in more detail below. Using the

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closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. Please see the attached ACTS exhibit C for placement of the proposed temporary lines. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

### **E.** Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

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No water well is to be drilled on this lease.

### F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from federal lands without prior approval from the BLM. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

## G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BLM, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BLM. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BLM.

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Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

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Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E Bonanza Evaporation Pond in Sec. 2 T10S R23E

Bonanca Byaporanon rono in See, B 1105 11262

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E

#### H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

#### I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of distrubance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

10/10/2011

NBU 1022-1H4CS / 1022-1I1BS / 1022-1I1CS 1022-1I4BS / 1022-1I4CS

NBU 1022-11 Pad Surface Use Plan of Operations 10 of 14

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

## J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

### **Final Reclamation**

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

10/10/2011

NBU 1022-1H4CS / 1022-1I1BS / 1022-1I1CS 1022-1I4BS / 1022-1I4CS

NBU 1022-11 Pad Surface Use Plan of Operations 11 of 14

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BLM. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications of the BLM.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BLM.

#### **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for

re-vegetation. The seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by Kerr-McGee to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Shadescale Mix	Pure Live Seed lbs/acre
Indian Ricegrass	3
Sandberg	0.75
Bottlebrush	1
Great Basin	0.5
Crested	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing	0.75
Forage Kochia	0.25
Total	9.5

10/10/2011

NBU 1022-1H4CS / 1022-1I1BS / 1022-1I1CS 1022-1I4BS / 1022-1I4CS

NBU 1022-11 Pad Surface Use Plan of Operations 12 of 14

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

# **Weed Control**

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Permit (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

#### **Monitoring**

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines)

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

#### K. Surface/Mineral Ownership:

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435)781-4400

#### L. Other Information:

# **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BLM.

10/10/2011

RECEIVED: February 02, 2012

NBU 1022-1H4CS / 1022-1I1BS / 1022-1I1CS 1022-1I4BS / 1022-1I4CS

NBU 1022-11 Pad Surface Use Plan of Operations 13 of 14

# **Resource Reports:**

A Class I literature survey was completed in May 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-145.

A paleontological reconnaissance survey was completed in June, 2010 and July, 2011 by SWCA Environmental Consultants. additional details please refer to reports UT11-14314-27, UT11-14314-32 and UT11-14314-33.

Biological field survey was completed in May and June of 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to reports GCI-514 and GCI 559.

# **Proposed Action Annual Emissions Tables:**

Table 1:	Proposed Action Annual	l Emissions (tons/	year) <sup>1</sup>
Pollutant	Development	Production	Total
NOx	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
$SO_2$	0.005	0.0043	0.0093
$PM_{10}$	1.7	0.11	1.81
PM <sub>2.5</sub>	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

<sup>&</sup>lt;sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison							
	Production Emissions	WRAP Phase III 2012 Uintah Basin Emission	to WRAP Phase				
Species	(ton/yr)	Inventory <sup>a</sup> (ton/yr)	III				
NOx	19.6	16,547	0.12%				
VOC	25	127,495	0.02%				

<sup>&</sup>lt;sup>a</sup> http://www.wrapair.org/forums/ogwg/PhaseIII\_Inventory.html

Uintah Basin Data

NBU 1022-1H4CS / 1022-1I1BS / 1022-1I1CS 1022-1I4BS / 1022-1I4CS

NBU 1022-1I Pad Surface Use Plan of Operations 14 of 14

## M. Lessee's or Operators' Representative & Certification:

Gina T. Becker Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6086 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Give T Parker

October 10, 2011

Date



Joseph D. Johnson 1099 18th Street Ste. 1800 • Denver, CO 80202 720-929-6708 • FAX 720-929-7708 E-MAIL: JOE.JOHNSON @ ANADARKO.COM

September 28, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 1022-111BS T10S-R22E

Section 1: NESE/NESE Surface: 1826' FSL, 937' FEL

Bottom Hole: 2576' FSL, 492' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

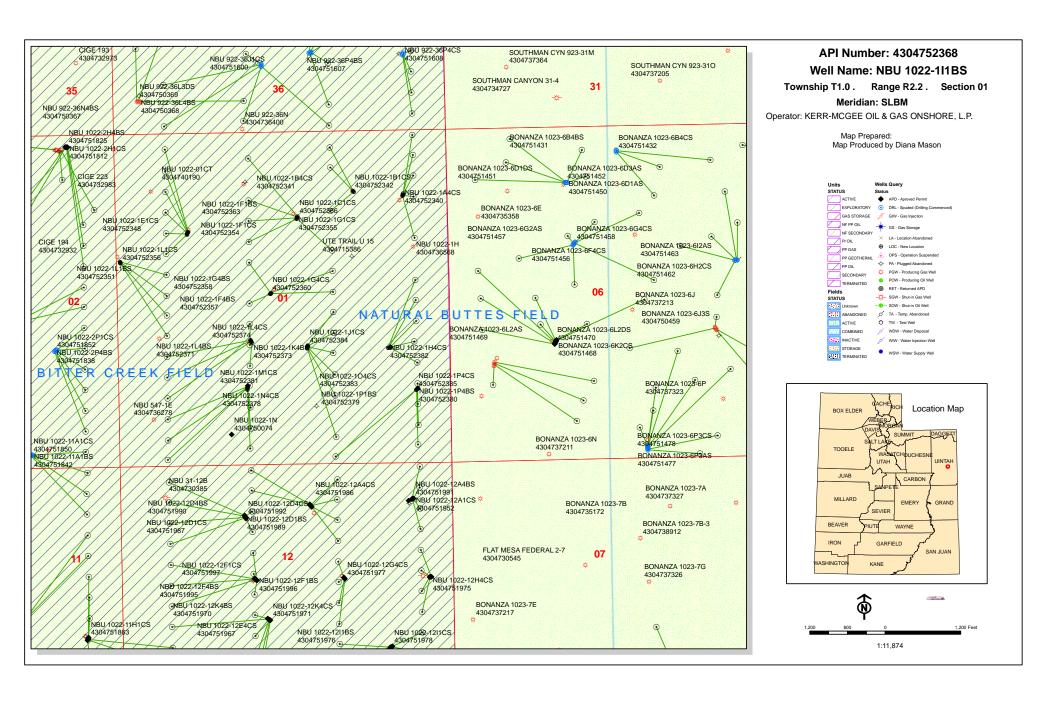
- Kerr-McGee's NBU 1022-111BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joseph D. Johnson Landman



# **United States Department of the Interior**

# BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

February 10, 2012

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

### WELL PAD - NBU 1022-25D

43-047-52295 NBU 1022-25C2DS Sec 25 T10S R22E 0653 FNL 0339 FWL BHL Sec 25 T10S R22E 0488 FNL 1933 FWL 43-047-52296 NBU 1022-25C3DS Sec 25 T10S R22E 0730 FNL 0314 FWL BHL Sec 25 T10S R22E 1147 FNL 1931 FWL 43-047-52297 NBU 1022-25C3AS Sec 25 T10S R22E 0732 FNL 0324 FWL BHL Sec 25 T10S R22E 0820 FNL 1938 FWL 43-047-52298 NBU 1022-25D2DS Sec 25 T10S R22E 0650 FNL 0319 FWL (BH) BHL Sec 25 T10S R22E 0485 FNL 0630 FWL 43-047-52299 NBU 1022-25F2AS Sec 25 T10S R22E 0652 FNL 0329 FWL BHL Sec 25 T10S R22E 1482 FNL 1955 FWL 43-047-52300 NBU 1022-25D3DS Sec 25 T10S R22E 0727 FNL 0295 FWL BHL Sec 25 T10S R22E 1152 FNL 0630 FWL 43-047-52301 NBU 1022-25D3AS Sec 25 T10S R22E 0729 FNL 0305 FWL BHL Sec 25 T10S R22E 0822 FNL 0631 FWL 43-047-52302 NBU 1022-25E2AS Sec 25 T10S R22E 0648 FNL 0309 FWL BHL Sec 25 T10S R22E 1479 FNL 0631 FWL WELL PAD - NBU 1022-1A 43-047-52335 NBU 1022-1A1BS Sec 01 T10S R22E 1030 FNL 0663 FEL BHL Sec 01 T10S R22E 0099 FNL 0498 FEL

RECEIVED: February 10, 2012

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API #	WELL NAME				LO	CATIO	N		
(Proposed PZ	WASATCH-MESA V	/ERDE	Ξ)						
43-047-52336	NBU 1022-1A1CS					R22E R22E			
43-047-52337	NBU 1022-1A4BS					R22E R22E			
43-047-52338	NBU 1022-1H1CS					R22E R22E			
43-047-52340	NBU 1022-1A4CS					R22E R22E			
WELL PAD - N	BU 1022-1B								
43-047-52339	NBU 1022-1B1BS					R22E R22E			
43-047-52341	NBU 1022-1B4CS					R22E R22E			
						R22E R22E			
WELL PAD - N									
43-047-52343	NBU 1022-1D1BS					R22E R22E			
43-047-52344	NBU 1022-1D1CS					R22E R22E			
43-047-52345	NBU 1022-1D4BS					R22E R22E			
43-047-52346	NBU 1022-1D4CS					R22E R22E			
43-047-52347	NBU 1022-1E1BS					R22E R22E			
	NBU 1022-1E1CS								
WELL PAD - N				_					
43-047-52349	NBU 1022-1E4BS					R22E R22E			
43-047-52350	NBU 1022-1E4CS					R22E R22E			
43-047-52351	NBU 1022-1L1BS					R22E R22E			
43-047-52356  WELL PAD - N						R22E R22E			
		,	0	0 1	m1 ^ ~	D00=	0500	 0460	TTF 7.7
43-04/-52352	NBU 1022-1K1BS					R22E R22E			

API #	WE:	LL NAME			LO	CATIO	N		
(Proposed PZ	WASA	ATCH-MESA VERD	Ε						
43-047-52357	NBU	1022-1F4BS BHL			T10S T10S				
43-047-52358	NBU	1022-1G4BS BHL			T10S T10S				
43-047-52360	NBU	1022-1G4CS BHL							
WELL PAD - N	RTT 10	022-1G							
		-	0	0.1	m1 0 0	DOOR	1266	 0054	
43-047-52353	NBU	1022-1C4CS BHL			T10S T10S				
43-047-52354	NBU	1022-1F1CS BHL			T10S T10S				
43-047-52355	NBU	1022-1G1CS BHL			T10S T10S				
43-047-52363	NBU	1022-1F1BS BHL			T10S T10S				
		1022-1C1CS BHL							
WELL PAD - N									
43-047-52359	NBU	1022-1J1BS BHL			T10S T10S				
43-047-52362	NBU	1022-101BS BHL			T10S T10S				
43-047-52366	NBU	1022-1J4CS BHL							
43-047-52367	NBU	1022-104BS BHL			T10S T10S				
43-047-52384	NBU	1022-1J1CS BHL			T10S T10S				
	D	200 1**							
WELL PAD - N	-								
43-047-52361	NBU	1022-1M1BS BHL			T10S T10S				
43-047-52365	NBU	1022-1K1CS BHL			T10S T10S				
43-047-52370	NBU	1022-1K4CS BHL			T10S T10S				
43-047-52371	NBU	1022-1L4BS BHL			T10S T10S				

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API #	WE:	LL NAME			LO	CATIO	N			
(Proposed PZ	WASA	ATCH-MESA VERD	E							
43-047-52373	NBU	1022-1K4BS BHL			T10S T10S					
43-047-52374	NBU	1022-1L4CS BHL			T10S T10S					
WELL PAD - N	BU 10	022-11								
43-047-52364	NBU	1022-114CS BHL			T10S T10S					
43-047-52368	NBU	1022-1I1BS BHL			T10S T10S					
43-047-52369	NBU	1022-111CS BHL			T10S T10S					
					T10S T10S					
WELL PAD - N										
43-047-52372	NBU	1022-1M4CS BHL			T10S T10S					
43-047-52375	NBU	1022-1M4BS BHL			T10S T10S					
43-047-52376	NBU	1022-1N1CS BHL			T10S T10S					
43-047-52377	NBU	1022-1N4BS BHL			T10S T10S					
43-047-52378	NBU	1022-1N4CS BHL			T10S T10S					
					T10S T10S					
WELL PAD - N										
43-047-52379	NBU	1022-1P1BS BHL			T10S T10S					
43-047-52380	NBU	1022-1P4BS BHL			T10S T10S					
43-047-52383	NBU	1022-104CS BHL			T10S T10S					
43-047-52385	NBU	1022-1P4CS	Sec	01	T10S	R22E	1148	FSL	0508	FEL

BHL Sec 01 T10S R22E 0270 FSL 0503 FEL

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The NBU 1022-25D2DS, 43-047-52298, is being permitted to target productive horizons below the unitized zone of the Natural Buttes Unit as defined in Section 3 of said agreement. We recommend not approving commingling of production with these zones and the unitized zones of the Natural Buttes Unit until this matter has been resolved by the BLM's Utah State Office.

This office has no other objection to permitting the wells at this time.

Michael L. Coulthard Management, ou=Branch of Minerals, email=Michael Coulthardelmgov, c=US

Digitally signed by Michael L. Coulthard DN: cn=Michael L. Coulthard, o=Bureau of Land Date: 2012.02.10 08:36:59 -07'00'

bcc: File - Natural Buttes Unit Division of Oil Gas and Mining Central Files Agr. Sec. Chron Fluid Chron

MCoulthard:mc:2-10-12

# **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 2/3/2012	API NO. ASSIGNED:	43047523680000

WELL NAME: NBU 1022-111BS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6086

**CONTACT:** Gina Becker

PROPOSED LOCATION: NESE 01 100S 220E Permit Tech Review:

> **SURFACE: 1826 FSL 0937 FEL** Engineering Review:

> **BOTTOM: 2576 FSL 0492 FEL** Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 39.97572 LONGITUDE: -109.38230 **UTM SURF EASTINGS: 638138.00** NORTHINGS: 4426315.00

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-011336 PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** 

✓ PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-14 Water Permit: 43-8496

Effective Date: 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting Fee Surface Agreement

✓ Intent to Commingle R649-3-11. Directional Drill

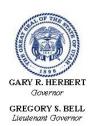
**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason

API Well No: 43047523680000



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 1022-111BS API Well Number: 43047523680000 Lease Number: UTU-011336

Surface Owner: FEDERAL Approval Date: 2/15/2012

### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

# Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

## Commingle:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

## General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

# Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

API Well No: 43047523680000

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

# **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available)

OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

# Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
  - Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas

Print Form

# **BLM - Vernal Field Office - Notification Form**

Oper	ator KERR-McGEE OIL & GA	<u>S</u> Rig Name	e/# <u>BUCk</u>	KET RIG
Subn	nitted By <u>CARA MAHLER</u> P	none Numbe	er <u>720.</u>	929.6029
Well	Name/Number NBU 1022-11	1BS		<u>-</u>
Qtr/C	Qtr NESE Section 1	Township 1	<u>os</u> R	ange <u>22E</u>
Lease	e Serial Number <u>UTU011336</u>			
API 1	Number <u>4304752368</u>			
	<u>l Notice</u> – Spud is the initial pelow a casing string.	spudding o	f the wel	ll, not drilling
	Date/Time <u>07/27/2012</u>	09:00 HRS	AM 🗌	PM
times	ng – Please report time casi s. Surface Casing Intermediate Casing Production Casing Liner Other	ng run start	s, not ce	ementing
	Date/Time <u>08/10/2012</u>	08:00 HRS	AM 🗌	РМ
	Initial BOPE test at surface BOPE test at intermediate of 30 day BOPE test Other	<b>-</b> .		RECEIVED  JUL 2 () 2012  DIV. OF OIL, GAS & MINING
	Date/Time		AM 🗌	РМ
Rema	arks estimated date and time. Pleas	SE CONTACT KENNY	GATHINGS A	AT
435 828	3.0986 OR LOVEL YOUNG AT 435.781.705	1		

Sundry Number: 28284 API Well Number: 43047523680000

	STATE OF UTAH		FORM 9
1	DEPARTMENT OF NATURAL RESOURCE: DIVISION OF OIL, GAS, AND MINII		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-011336
SUNDR	RY NOTICES AND REPORTS O	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly de reenter plugged wells, or to drill horizont n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-111BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047523680000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	F h Street, Suite 600, Denver, CO, 80217	PHONE NUMBER: 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 1 Township: 10.0S Range: 22.0E Meridia	n: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
✓ SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud: 7/28/2012	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
172072012	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
·	WILDCAT WELL DETERMINATION	OTHER	OTHER:
			· <del></del>
MIRU TRIPLE A BU RAN 14" 36.7# SC	COMPLETED OPERATIONS. Clearly show all ICKET RIG. DRILLED 20" COND. HEDULE 10 CONDUCTOR PIP. SPUD WELL LOCATION ON JHRS.	OUCTOR HOLE TO 40'. E. CEMENT WITH 28	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 03, 2012
NAME (PLEASE PRINT)	PHONE NUMBER		
Jaime Scharnowske	720 929-6304	Regulartory Analyst	
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/1/2012	

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

MEGINID

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

OCT 2 () 2011

Expires July 31, 2010

	APPLICAT	ION FOR PERMI	T TO DRILL OR R	EEDIER VEHIVAL, U	AlfIndian, Allottee or Tri	be Name
1a. Type of Work:	<b>⊠</b> DRILL	☐ REENTER	-		7. If Unit or CA Agreemen UTU63047A	t, Name and No.
1b. Type of Well:	Oil Well	☑ Gas Well	Other Sir	ngle Zone	8. Lease Name and Well N NBU 1022-111BS	0.
2. Name of Operator KERR-MCGE	r E OIL & GAS	Contac CONSHOPPE ail: GINA	t: GINA T BECKER BECKER@ANADARKO.	СОМ	9. API Well No.	2.368
3a. Address P.O. BOX 1737 DENVER, CO			3b. Phone No. (incl Ph: 720-929-60 Fx: 720-929-708	86	10. Field and Pool, or Expl NATURAL BUTTES	oratory
4. Location of Well	(Report locat	ion clearly and in accord	dance with any State requ	uirements.*)	11. Sec., T., R., M., or Blk.	and Survey or Area
At surface	NESE	1826FSL 937FEL	39.975679 N Lat, 10	09.382156 W Lon	Sec 1 T10S R22E M	ler SLB
At proposed pro	od. zone NESE	2576FSL 492FEL	39.977729 N Lat, 10	9.380557 W Lon		
APPROXIMA <sup>-</sup>	TELY 46 MILI	from nearest town or pos ES SOUTH OF VER	t office* RNAL, UTAH		12. County or Parish UINTAH	13. State UT
15. Distance from p lease line, ft. (A	roposed location	to nearest property or ig. unit line, if any)	16. No. of Acres in 1	Lease	17. Spacing Unit dedicated	to this well
492		18. um (m.e, m un)	522.84			
18. Distance from p	roposed location	to nearest well, drilling	, 19. Proposed Depth		20. BLM/BIA Bond No. on	file
completed, appl			8642 MD 8509 TVD		WYB000291	
21. Elevations (Show 5107 GL	w whether DF, K	KB, RT, GL, etc.	22. Approximate dat 03/01/2012	te work will start	23. Estimated duration 60-90 DAYS	
			24. Att	tachments	-	
The following, comple	ted in accordanc	e with the requirements	of Onshore Oil and Gas	Order No. 1, shall be attached to the	his form:	
<ol> <li>Well plat certified b</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan SUPO shall be file</li> </ol>	(if the location i	nrveyor. is on National Forest Sy: opriate Forest Service O	stem Lands, the ffice).	Bond to cover the operation Item 20 above).     Operator certification     Such other site specific infoauthorized officer.		- ,
25. Signature (Electronic Sub	omission)		Name (Printed/Typed GINA T BECKI	l) ER Ph: 720-929-6086		Date 10/12/2011
Title REGULATOR	Y ANALYST I	<u> </u>				•
Approved by (Signate	ire)		Name (Printed/Typed	<sup>9</sup> Jerry Kenczka		DJUN 2 7 201
	siarant Field I Is & Mineral I		Office VE	RNAL FIELD OFFICE		
	oes not warrant o	or certify the applicant h	olds legal or equitable tit	le to those rights in the subject lea	se which would entitle the app	licant to conduct
Fitle 18 U.S.C. Section States any false, fictition	1001 and Title 4 us or fraudulent	43 U.S.C. Section 1212, statements or representa	make it a crime for any p tions as to any matter wi	person knowingly and willfully to thin its jurisdiction.	make to any department or age	ency of the United
					<del> </del>	

Additional Operator Remarks (see next page)

RECEIVED

Electronic Submission #119973 verified by the BLM Well Information System For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal

Aug 1 0 2012



NOTICE OF APPROVAL CONDITIONS OF APPROVAL ATTACHED

DIV. OF OIL, GAS & MINING

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

12UBR6019AE

APD Posted 10/21/11



# UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT** VERNAL FIELD OFFICE 170 South 500 East

**VERNAL. UT 84078** 

(435) 781-4400



# CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Well No:

API No:

Kerr McGee Oil & Gas Onshore

NBU 1022-111BS 43-047-52368

Agreement:

Location: Lease No: NESE, Sec. 1, T10S, R22E

UTU-011336 **Natural Buttes** 

(435) 781-4400

**OFFICE FAX NUMBER:** 

**OFFICE NUMBER:** 

(435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

# **NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to:  blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	.   -	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

Page 2 of 8 Well: NBU 1022-111BS 6/19/2012

# SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 designrated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

# Site Specific COA's

- All new and replacement internal combustion gas field engines of less than or equal to 300 designrated horse power must not emit more than 2 grams of NOx per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.
- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 grams of NOx per horsepower-hour.
- The following would be used as standard operating procedures: Green completion or controlled VOC emissions methods with 90% efficiency for Oil or Gas Atmospheric Storage Tanks, VOC Venting controls or flaring, Glycol Dehydration and Amine Unites, Well Completion, Re-Completion, Venting, and Planned Blowdown Emissions.
- All reclamation will comply with the Green River Reclamation Guidelines.
- All vehicles and equipment shall be cleaned either through power-washing, or other approved
  method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent
  weed seed introduction.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established.
- Noxious and invasive weeds will be controlled throughout the area of project disturbance.
- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an
  integrated pest management program is applicable, coordination has been undertaken with the
  state and local management program (if existing). A copy of the pest management plan will be
  submitted for each project.
- A pesticide use proposal (PUP) will be obtained for the project.

Page 3 of 8 Well: NBU 1022-111BS 6/19/2012

- A permitted paleontologist is to be present to monitor construction at well pads CIGE 31 (AKA NBU 1022-1E1) and NBU 1022-1I during all surface disturbing actives: examples include the following building of the well pad, access road, and pipelines.
- The best method to avoid entrainment is to pump from an off-channel location one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.
- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
  - a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;
  - b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and
  - c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.
- Screen all pump intakes with 3/32 inch mesh material.
- Approach velocities for intake structures will follow the National Marine Fisheries Service's
  document "Fish Screening Criteria for Anadromous Salmonids". For projects with an in-stream
  intake that operate in stream reaches where larval fish may be present, the approach velocity will
  not exceed 0.33 feet per second (ft/s).
- Report any fish impinged on the intake screen to the Service (801.975.3330) and the Utah Division of Wildlife Resources:

Northeastern Region 152 East 100 North, Vernal, UT 84078 Phone: (435) 781-9453

Kerr McGee can only use the following water source:
 Permit # 49-2307 JD Field Services Green River-Section 15, T2N, R22E

The following measures are required by and have been committed to by Anadarko for all areas where surface disturbing activities cannot be avoided by the required 300 foot buffer from identified Uinta Basin hookless cactus individuals.

- Silt fencing will be used to protect populations within 300 feet of surface disturbing activities that are downslope or downwind of the surface disturbance
- A qualified botanist will be on site to monitor the surface-disturbing activities.
- Dust abatement will occur and will be done using only water.
- All cacti within 300 feet will be flagged immediately prior to surface-disturbing activities are completed.
- Pipelines will be located to the far side of the ROW to maximize distance from cacti.

Page 4 of 8 Well: NBU 1022-111BS

6/19/2012

 Project personnel associated with construction activities would be instructed to drive a speed limit of 15 miles per hour on unpaved roads and to remain on the existing roads and approved ROW at all times.

To maintain compliance with current cactus survey protocols, the following measures will be required.

- If construction does not occur within 4 years of the original survey date, new 100% clearance surveys will be required.
- Prior to construction within 4 years of the original survey date, a spot check survey will be required during the year of construction. KMG and their respective 3<sup>rd</sup> party surveyor will refer to the current *Sclerocactus* Spot Check Survey Methods, to determine site specific survey distances and intensity levels.
- Spot check reports will be reported to the BLM and the US Fish and Wildlife Service.
- Construction will not commence until written approval is received from the BLM.

Discovery Stipulation: Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Pariette cactus or Uinta Basin hookless cactus is anticipated as a result of project activities.

Page 5 of 8 Well: NBU 1022-111BS 6/19/2012

# DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

#### SITE SPECIFIC DOWNHOLE COAs:

- Gamma ray Log shall be run from Total Depth to surface.
- CBL will be run from TD to TOC.

#### Variances Granted:

## Air Drilling

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the will bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40' from the well bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.
- FIT Test. Variance granted due to well-known geology and the problems that can occur with the FIT Test.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

# DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a

Page 6 of 8 Well: NBU 1022-111BS 6/19/2012

test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is
  encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal
  Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the <u>top of cement</u> and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 7 of 8 Well: NBU 1022-111BS 6/19/2012

#### **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written communication
  and must be received in this office by not later than the fifth business day following the date on
  which the well is placed on production. The notification shall provide, as a minimum, the following
  informational items:
  - o Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - o The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - o Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable,
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be
  reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported
  verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will
  be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of
  Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

Page 8 of 8 Well: NBU 1022-111BS 6/19/2012

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office
  Petroleum Engineers will be provided with a date and time for the initial meter calibration and all
  future meter proving schedules. A copy of the meter calibration reports shall be submitted to the
  BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid
  hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall
  be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering
  lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a
  suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be
  obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior approval
  of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior
  approval of the BLM Vernal Field Office shall be obtained and notification given before resumption
  of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office
  Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in
  order that a representative may witness plugging operations. If a well is suspended or abandoned,
  all pits must be fenced immediately until they are backfilled. The "Subsequent Report of
  Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of
  the well bore, showing location of plugs, amount of cement in each, and amount of casing left in
  hole, and the current status of the surface restoration.

# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

# **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

state CO zip 80217 Phone Number: \_(720) 929-6304

#### Well 1

4304752368         NBU 1022-111BS         NESE         1         10S           Action Code         Current Entity         New Entity         Spud Date	22E	UINTAH
Action Code Current Entity New Entity Spud Date		
Number Number		ntity Assignment Effective Date
B 99999 2900 7/28/2012	8	12012012

Comments:

MIRU TRIPLE A BUCKET RIG.

WSMVD

SPUD WELL LOCATION ON 7/28/2012 AT 07:30 HRS. BHL: hese

Well 2

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304752382	NBU 1022-1	H4CS	NESE	1	108	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	s	pud Da	te	1	ity Assignment ffective Date
B	99999	2900	7	7/28/201	2	813	20 12012

Comments:

MIRU TRIPLE A BUCKET RIG.

WSMVD SPUD WELL LOCATION ON 7/28/2012 AT 10:30 HRS. BHL: Sens

Well 3

API Number	Well I	Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		y Assignment fective Date
Comments:							<u>.</u>

# **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new chilly ED
- E Other (Explain in 'comments' section)

AUG 0 g 2012

Name (Please Print)	Jain Schaumak
---------------------	---------------

8/2/2012

Signature

REGULATORY ANALYST

Date

Title

Sundry Number: 30385 API Well Number: 43047523680000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE		FORM 9
	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-011336		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.	deepen existing wells below ntal laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-111BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047523680000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 73779 720 929-	9. FIELD and POOL or WILDCAT: 65NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 1 Township: 10.0S Range: 22.0E Merid	ian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT     Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
10/2/2012	WILDCAT WELL DETERMINATION	OTHER	OTHER:
12 DESCRIPE BRODOSED OR	COMPLETED OPERATIONS. Clearly show		
	ne month of September 2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 02, 2012
NAME (PLEASE PRINT)	PHONE NUMB	ER TITLE	
Lindsey Frazier	720 929-6857	Regulatory Analyst II	
SIGNATURE N/A		<b>DATE</b> 10/2/2012	

Sundry Number: 31526 API Well Number: 43047523680000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE		FORM 9
ı	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-011336		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for pro- current bottom-hole depth, FOR PERMIT TO DRILL form	posals to drill new wells, significantly d reenter plugged wells, or to drill horizon n for such proposals.	eepen existing wells below tal laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-111BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		<b>9. API NUMBER:</b> 43047523680000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 0	HIP, RANGE, MERIDIAN: 1 Township: 10.0S Range: 22.0E Meridia	n: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICATE	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE [	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN [	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
11/2/2012	WILDCAT WELL DETERMINATION	OTHER	OTHER:
40 DECORUDE DRODOCED OD			· <del></del>
	the month of October 2012.		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY November 02, 2012
NAME (PLEASE PRINT)	PHONE NUMBE	R TITLE	
Lindsey Frazier	720 929-6857	Regulatory Analyst II	
SIGNATURE N/A		<b>DATE</b> 11/2/2012	

Sundry Number: 32616 API Well Number: 43047523680000

	STATE OF UTAH				FORM 9
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING				5.LEASE DESIGNATI UTU-011336	ON AND SERIAL NUMBER:
SUNDRY NOTICES AND REPORTS ON WELLS				6. IF INDIAN, ALLOT	TEE OR TRIBE NAME:
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly reenter plugged wells, or to drill horiz n for such proposals.	/ deep ontal l	en existing wells below aterals. Use APPLICATION	7.UNIT or CA AGREI NATURAL BUTTES	
1. TYPE OF WELL Gas Well				8. WELL NAME and I NBU 1022-111BS	NUMBER:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 4304752368000	0
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021		ONE NUMBER: 720 929-6	9. FIELD and POOL 5NATURAL BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL				COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH	HP, RANGE, MERIDIAN: 1 Township: 10.0S Range: 22.0E Merio	dian: S	3	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DA	ТА
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE		ALTER CASING	CASING REPAI	R
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL	. NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WEL	L TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	FRACTURE TREAT	☐ NEW CONSTR	UCTION
	OPERATOR CHANGE	☐ F	PLUG AND ABANDON	PLUG BACK	
SPUD REPORT	PRODUCTION START OR RESUME	☐ F	RECLAMATION OF WELL SITE	RECOMPLETE	DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY A	ABANDON
	TUBING REPAIR		/ENT OR FLARE	WATER DISPOS	SAL
DRILLING REPORT     Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	APD EXTENSION	DN .
12/3/2012	WILDCAT WELL DETERMINATION		OTHER	OTHER:	ĺ
42 DESCRIBE BRODOSED OR				L-	
l .	COMPLETED OPERATIONS. Clearly show he month of November 201			Accepted Utah Div Oil, Gas ar FOR REC	ision of
NAME (PLEASE PRINT)	PHONE NUM	BER	TITLE		
Lindsey Frazier	720 929-6857	J_ \	Regulatory Analyst II		
SIGNATURE N/A			<b>DATE</b> 12/3/2012		

Sundry Number: 33535 API Well Number: 43047523680000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE		FORM 9
ı	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-011336		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	oposals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-111BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047523680000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 73779 720 929-0	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 1 Township: 10.0S Range: 22.0E Meridi	ian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
1/2/2013	_	OTHER	OTHER:
	WILDCAT WELL DETERMINATION	U OTHER	<u> </u>
FINISHED DR PRODUCTION CASI OF CASING AN	COMPLETED OPERATIONS. Clearly show a RILLING TO 8,680' ON 12/31/2 NG. RELEASED XTC 12 RIG ( ID CEMENT WILL BE INCLUDE EPORT. WELL IS WAITING ON ACTIVITIES	2012. CEMENTED ON 01/02/2013. DETAILS ED WITH THE WELL	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 03, 2013
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUMB</b> 720 929-6857	ER TITLE Regulatory Analyst II	
SIGNATURE		DATE	
N/A		1/3/2013	

# State of Utah - Notification Form

Operator <u>Anadarko Petroleum</u> Rig Name/# <u>XTREME 12</u>
Submitted By <u>JOE MADSEN</u> Phone Number <u>435-828-0985</u>
Well Name/Number <u>NBU 1022-111BS</u>
Qtr/Qtr <u>NE/SE</u> Section <u>1</u> Township <u>10 S</u> Range 22E
Lease Serial Number <u>UTU 011336</u>
API Number 43047523680000

<u>Casi</u>	ng – Time casing run starts, not cementing times	5.
	Production Casing Other	
	Date/Time <u>12/31/2012</u> 23:00 AM	PM 🔀
BOP	<u>E</u> Initial BOPE test at surface casing point Other	
	Date/Time AM PM	
	<u>Move</u> ation To:	RECEIVED JAN 02 2013
	Date/Time AM PM	DIV. OF OIL, GAS & MINING
Ren	narks <u>TIME IS ESTIMATED</u>	

# State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# XTREME 12 Submitted By JOE MADSEN Phone Number 435- 828-0985 Well Name/Number NBU 1022-111BS Qtr/Qtr NE/SE Section 1 Township 10 S Range 22E Lease Serial Number UTU 011336 API Number 43047523680000
<u>Casing</u> – Time casing run starts, not cementing times.
Production Casing Other
Date/Time AM PM
BOPE  Initial BOPE test at surface casing point  Other
Date/Time <u>12/27/2012</u> <u>22:00</u> AM PM
RECEIVED Location To: RECEIVED
Date/Time AM PM DIV. OF OIL, GAS & MININ
Remarks TIME IS ESTIMATED

Sundry Number: 35172 API Well Number: 43047523680000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES		FORM 9
ı	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-011336		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for procurrent bottom-hole depth, IFOR PERMIT TO DRILL form	posals to drill new wells, significantly dee reenter plugged wells, or to drill horizontal n for such proposals.	pen existing wells below laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-111BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047523680000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	PH Street, Suite 600, Denver, CO, 80217 37	ONE NUMBER: 79 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NESE Section: 0	IIP, RANGE, MERIDIAN: 1 Township: 10.0S Range: 22.0E Meridian:	S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICATE N	IATURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	water shutoff	SI TA STATUS EXTENSION	APD EXTENSION
3/4/2013			
		OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly show all post completing the well. Well TD a	<u> </u>	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 04, 2013
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUMBER</b> 720 929-6857	TITLE Regulatory Analyst II	
SIGNATURE		DATE	
N/A		3/4/2013	

Sundry Number: 35598 API Well Number: 43047523680000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOUR		FORM 9
	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-011336		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	oposals to drill new wells, significantly reenter plugged wells, or to drill horize n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-111BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047523680000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 17 3779 720 929-	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1826 FSL 0937 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 11 Township: 10.0S Range: 22.0E Merio	dian: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICA	ATE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	✓ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
3/11/2013		SITA STATUS EXTENSION	
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
The subject well v	COMPLETED OPERATIONS. Clearly show was placed on production of light lig	n March 11, 2013. The	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 14, 2013
NAME (PLEASE PRINT) Laura Abrams	<b>PHONE NUM</b> 720 929-6356	BER TITLE Regulatory Analyst II	
SIGNATURE N/A		DATE 3/14/2013	
		u 0,, <u>-</u> 0 1 0	

Form 3160-4 (August 2007)

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0137

			BUREAU	J OF LAN	ND MANAC	EMEN	T				1	Expir	es: July	731, 2010	
	WELL (	COMPL	ETION C	R RECO	OMPLETION	ON RE	PORT	AND LO	G			ease Serial N TU011336			
1a. Type of	Well 🔲	Oil Well	<b>⊠</b> Gas `	Well 🔲	Dry 🔲 (	Other					6. If	Indian, Allo	ottee or	r Tribe Name	
b. Type of	f Completion	☑ No Othe	ew Well r	☐ Work C	Over 🗖 D	eepen	☐ Plu	g Back 🔲	Diff. I	Resvr.	7. U	nit or CA A	greem	ent Name and No.	-
2. Name of	Operator	" ' "			Contact: T	EENA P	AULO					ITU63047A ease Name a		ell No	-
KERR	MĈGEE OIL		NSHOREE	-Mail: teen	a.paulo@ar	adarko.	com				N	IBU 1022-1	I1BS		
3. Address	DENVER,	CO 802		<del>-</del>		Ph:	720-92		ea code	)	9. Al	PI Well No.		43-047-52368	
			-		ance with Fed	•		s)*			10. F	ield and Pool IATURAL B	ol, or I	Exploratory ES	
At surfa					N Lat, 109.38	32156 W	/ Lon							Block and Survey	-
	rod interval r	•			L 502FEL							County or Pa		0S R22E Mer SLB	-
At total  14. Date Sp		SE 2575F	SL 496FEL	ate T.D. Rea	a ala a d	—	16 D-t	C- 1 / 1				INTÁH		UT	
07/28/2	2012			(31/2012	acned		□ D &	Completed A Res 1/2013	ady to F	rod.	17. E	Elevations (I 512	OF, KE 10 KB	3, RT, GL)*	
18. Total D		MD TVD	8680 8547		. Plug Back		MD TVD	8610 8477		20. De	pth Bri	dge Plug Set		MD TVD	-
21. Type E CBL/G	lectric & Oth R/CCL/TEM	er Mechar P	ical Logs R	un (Submit	copy of each)	· · · · ·		2.2	. Was	well core DST run? tional Su	d?	No [	🕽 Yes	(Submit analysis)	
23. Casing ar	nd Liner Reco	ord (Repo	rt all strings	set in well)				L	Dilec	nonai su	ivey:	<u> </u>	<u>u</u> 105	(Submit analysis)	-
Hole Size	Size/G	rade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	_	Cementer epth	No. of SI		Slurry (BE		Cement T	op*	Amount Pulled	-
20.000		14.000	36.7		0 4	0	*		28	3					
11.000		8.625	28.0	<u> </u>	0 240	3		ļ	915	5			0		_
7.875	<del> </del>	4.500	11.6	<u> </u>	0 865	7			1400				628		
						┼		<u> </u>							_
								<b> </b>					-		-
24. Tubing	Record			<u> </u>											-
	Depth Set (M	ID) Pa	cker Depth	(MD)	Size Dep	th Set (M	(D) I	Packer Depth	(MD)	Size	De	pth Set (MD	)) T	Packer Depth (MD)	-
2.375		3011													
25. Produci	ng Intervals				26	. Perfora	tion Rec	ord		'					
	ormation		Тор		Bottom	P	erforated			Size	N	lo. Holes		Perf. Status	
A)	MESAVE	RDE		6708	8505			6708 TO 8	505	0.3	60	177	OPEN	<b>N</b>	
B) C)										,	_				-
D)									_						-
	acture, Treat	ment, Cen	ent Squeeze	Etc.											-
	Depth Interva	ıl					A	mount and Ty	pe of N	<b>I</b> aterial					
	67	08 TO 85	05 PUMP 8	134 BBLS 9	SLICK H2O &	164,748 ו	LBS 30/5	O OTTAWA SA	AND						
			_												
															-
28. Product	ion - Interval														-
Date First	Test	Hours	Test	Oil	Gas	Water		ravity	Gas		Producti	ion Method			-
Produced 03/11/2013	Date 03/12/2013	Tested 24	Production	BBL 0.0	MCF 2288.0	BBL 0.0	Corr.	API	Gravit	у	ľ	FLOW	IS FRC	OM WELL	
Choke	Tbg. Press.	Csg.	24 Hr.	Oil	Gas	Water	Gas:0	Dil	Well S	tatus	<u> </u>	. 2011	01110	>101 44 PPF	-
Size 20/64	Flwg. 1511 Si	Press. 2212.0	Rate	BBL 0	мсғ 2288	BBL 0	Ratio		Ι,	PGW					
	tion - Interva	<u> </u>	1		1					J.,					-
Date First	Test	Hours	Test	Oil	Gas	Water		ravity	Gas		Producti	on Method			
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr.	API	Gravit	у		İ	REC	EIVED	
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:0		Well S	tatus		A	PR	1 6 2013	•
	12			•			T T								

28b. Prod	uction - Inter	val C					_					
Date First	Test	Hours	Test	Oil	Gas	Water	Oil Gravity	I	Gas	Production Method		
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr. API		Gravity			
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil	Ţ	Well Status			
5120	SI	i less.		- BBL	MCF	DDL	Ratio					
28c. Prod	uction - Inter	val D		<del>-1</del>			<u> </u>		·			
Date First	Test	Hours	Test	Oil	Gas	Water	Oil Gravity		Gas	Production Method	****	
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr. API		Gravity			
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	,	Well Status			
29. Dispo	sition of Gas	(Sold, used	for fuel, ven	ted, etc.)	,		******					
30. Summ	nary of Porou	ıs Zones (In	clude Aquife	ers):	· · · · · · · · · · · · · · · · · · ·		<u></u>		31. Fo	rmation (Log) Ma	rkers	
Show	all important	t zones of p	orosity and c	ontents the	ereof: Core	d intervals and a	ll drill-stem			(208) 1120		
tests, i	including der coveries.	oth interval	tested, cushi	on used, ti	ne tool ope	en, flowing and s	hut-in pressu	ures				
	Formation		Tom	D-44		D	- 0	,		2.7		Тор
	romanon		Тор	Bottor	n	Description	s, Contents,	etc.		Name		Meas. Depth
							_			REEN RIVER		1286
					ŀ					RD'S NEST AHOGANY		1587 1929
									WA	ASATCH		4313
									I ME	SAVERDE		6418
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32. Additi	ional remarks	s (include p	lugging proc e hole was	edure): drilled wit	h = 12 1//	inch bit. The	remainder					
of the	surface ho	le was drill	led with an '	11 inch bi	<ol> <li>DQX cs</li> </ol>	g was run from	surface to					
4950	ft; LTC csg y, perforatio	was run fr	om 4950 ft.	to 8657 ft	. Attache	d is the chrono	logical well					
HISTOI	y, perioratic	лперопа	nu iinai sur	vey.								
22 (****1-	anologa	achmart-										
	enclosed att		. (1 £.11+	anid )		0 0-1-1-	) <del>.</del>		1 DOTE		4 50 0	1.0
	ectrical/Mech	_	•	• /		2. Geologic F	-		3. DST Re	port	4. Direction	nal Survey
5. Su	ndry Notice i	for plugging	g and cement	verificatio	n	6. Core Analy	ysıs		7 Other:			
									<u> </u>			
34. I here	by certify tha	at the forego	oing and attac	ched inforr	nation is co	omplete and corre	ect as determ	nined fron	n all available	e records (see atta	ched instruction	ons):
			Elect	ronic Sub	mission #2	03959 Verified	by the BLM	Well Inf	ormation Sy	stem.		
				For KER	R MCGEI	E OIL&GAS O	NSHORE,L	P, sent to	o the Vernal			
Nama	(nlease mi-	() TEENIA	PALILO				m:₄1.	CTAFE	DECLUATA	DOV ODECIALIO	27	
name	(please prin	U ICENA	FAULU				I itle	SIAFF	REGULATO	DRY SPECIALIS	)	
Signa	ture	(Electror	nic Submiss	ion)			Date	04/09/2	013	•		
Title 18 U	J.S.C. Section	n 1001 and	Title 43 U.S.	C. Section	1212, mak	te it a crime for a	my person ki	nowingly	and willfully	to make to any d	epartment or a	gency

# บร หบ่ั่ง REGION Operation Summary Report

Well: NBU 1022-	-111BS (	GREEN					_	Spud Date: 9/9/2	2012		
Project: UTAH-U	JINTAH			Site: NBI	J 1022-1I	PAD			Rig Name No: PROPETRO 12/12, XTC 12/12		
Event: DRILLING	3			Start Dat	e: 8/2/201	2			End Date: 1/2/2013		
Active Datum: R Level)	KB @5,	120,00usft (at	oove Mean Se	ea	UWI: NE	E/SE/0/10	/S/22/E/1	/0/0/26/PM/S/1826/	/E/0/937/0/0		
Date	s	Time start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
9/9/2012	0:00	- 2:00	2,00	DRLSUR	01	С	Р		SKID RIG TO WELL 3/5 AND PREPARE TO SPUD		
	2:00	- 3:30 - 6:00	1.50 2.50	DRLSUR DRLSUR	02	А	P P		SPUD DRILL 12.25" HOLE 44 ft TO 210 ft (166 FT, 111 FPH). WOB 5-15 Kips. GPM 491. PSI ON/OFF 750/500. SURFACE RPM 55, MOTOR 83, TOTAL RPM 138. UP/DOWN/ ROT 20/20/20 K. DRAG 0 Kips. CIRCULATE CLOSED LOOP SYSTEM DRILL DOWN TO 210 ft W/6 in COLLARS. NOV ON LINE NO HOLE ISSUES. TOOH INSTALL DIRECTIONAL ASSEMBLY AND 11" BIT INSTALL EM TOOLS AND ORIENT TO MUD		
	6:00	- 15:00 - 16:00	9.00	DRLSUR	02	B	P		MOTOR TIH  DRILL 11" SURFACE HOLE F/ 210' / 1490' / 1280'  @142' FPH  WEIGHT ON BIT 15-25 K.  STROKES PER MINUTE 120  GALLONS PER MINUTE 491.  PRESSURE ON/OFF(BOTTOM) 1200/1000.  ROTARY RPM 59,  MOTOR RPM 83,  TOTAL RPM 142.  UP/DOWN/ ROTATE 69/49/59 K. DRAG 10 K.  CIRCULATE CLOSED LOOP SYSTEM  NOV ON LINE  WITH 8.6# WATER.  RUNNING VOLUME OVER BOTH SHAKERS. 170  API SCREENS ON SHAKERS.  NO HOLE ISSUES.  CHANGE SWAB IN MUD PUMP.		
		- 0:00	8.00	DRLSUR	02	В	P		DRILL 11" SURFACE HOLE F/ 1490' TO 2200' / 710' @88.7' FPH WEIGHT ON BIT 15-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1200/1000. ROTARY RPM 65, MOTOR RPM 83, TOTAL RPM 148. UP/DOWN/ ROTATE 80/55/67 K. DRAG 13 K. CIRCULATE CLOSED LOOP SYSTEM NOV ON LINE WITH 8.6# WATER. RUNNING VOLUME OVER BOTH SHAKERS. 170 API SCREENS ON SHAKERS. HOLE ISSUES. LOST CIRC@ 1580' Current Position: 5.4' above, 0.8' left of proposalSlide Footage: 412' = 18.5%Rotating Footage: 1812' = 81.5%		

4/1/2013

2:21:13PM

								EGION ary Report
Well: NBU 1022-	1I1BS C	BREEN	<u> </u>		<u> </u>			Spud Date: 9/9/2012
Project: UTAH-U	INTAH		•••	Site: NBL	J 1022-1I	PAD		Rig Name No: PROPETRO 12/12, XTC 12/12
Event: DRILLING	<del></del>			Start Date	e: 8/2/20	12	T	End Date: 1/2/2013
Active Datum: RI	<b>≺</b> B @5,	120.00usft (a	bove Mean S				0/S/22/E/1	1/0/0/26/PM/S/1826/E/0/937/0/0
Date	s	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
9/10/2012	2:30 4:30	- 2:30 - 4:30	2.50	DRLSUR	05	B	P	DRILL 11" SURFACE HOLE F/ 2200' TO 2427 / 227'  @90' FPH  WEIGHT ON BIT 15-25 K.  STROKES PER MINUTE 120  GALLONS PER MINUTE 491.  PRESSURE ON/OFF(BOTTOM) 1200/1000.  ROTARY RPM 65,  MOTOR RPM 83,  TOTAL RPM 148.  UP/DOWN/ ROTATE 80/55/67 K. DRAG 13 K.  CIRCULATE CLOSED LOOP SYSTEM  NOV ON LINE  WITH 8.6# WATER.  RUNNING VOLUME OVER BOTH SHAKERS. 170  API SCREENS ON SHAKERS.  NO HOLE ISSUES.  CIRCULATE AND CONDITION MUD PRIOR TO LDDS
	4.50	- 8:30	4.00	DRLSUR	06	Α	P	TOOH LAYING DOWN, L/D MWD TOOLS,
	8:30 11:30	- 11:30 - 16:00	3.00 4.50	CSGSUR	12	C Ē	P P	DIRECTIONAL MONELS, MUD MOTOR, AND 11" BIT RIG UP AND RUN 54 JOINTS 8.625" J55 28# SURFACE CASING SHOE AT 2392.91' BAFFLE AT 2347.71' NO PROBLEMS GETTING TO BOTTOM RUN 200' 1" PIPE AND RIG DOWN MOVE RIG OFF WELL. HELD SM WITH PRO PETRO CMENTERS RIG UP, PRESSURE TEST LINES TO 2000 PSI. PUMP 140 BBLS OF WATER AHEAD. CATCH PSI. PUMP 20
12/27/2012	15:00	- 16:00	1.00	MIRU	01	С	P	BBLS OF 8.3# GEL WATER AHEAD. MIX AND PUMP (240 SX) 122.2 BBLS OF 12# 2.86 YD 16.23 GAL/SK PREMIUM CEMENT MIX AND PUMP 200 SKS W/ 2% CALC. DROP PLUG ON FLY. DISPLACE W/ 146 BBLS OF H20. NO CIRC THROUGH OUT. FINAL LIFT OF 300 PSI AT 4 BBL/MIN. BUMP PLUG WITH 600 PSI FOR 5 MIN. FLOAT HELD. MIX AND PUMP (150 SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN 1". NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WAIT 1.5 HOURS MIX AND PUMP (100 SX) 20.4 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WAIT 1.5 HOURS MIX AND PUMP (100 SX) 20.4 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WAIT 1.5 HOURS MIX AND PUMP (100 SX) 20.4 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. NO SHUT DOWN AND CLEAN TRUCK.WAIT 2 HOURS MIX AND PUMP (125 SX) 25.6 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE CEMENT TO SURFACE RIG DOWN SAME. RELEASE RIG @16:00 9-8-2012 SKID THE RIG 10' AND CENTER IT OVER THE HOLE
	16:00	- 17:30	1.50	MIRU	14	Α	P	SET STACK.  NIPPLE UP THE BOP,RIG UP STEAM EXTENTION,RIG  UP KILL LINE. PUT TURN BUCKLES ON STACK.

Well: NBU 1022	-1I1BS G	REEN						Spud Date: 9/9/2012
Project: UTAH-l	JINTAH			Site: NBU	J 1022-1I	PAD		Rig Name No: PROPETRO 12/12, XTC 12/12
Event: DRILLIN	3			Start Dat	e: 8/2/201	2		End Date: 1/2/2013
Active Datum: R Level)	KB @5,1	20.00usft (a	bove Mean S	ea	UWI: NI	E/SE/0/10	D/S/22/E/1/	/0/0/26/PM/S/1826/E/0/937/0/0
Date	St	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
		- 23:00	5.50	PRPSPD	15	A	Р	HOLD SAFETY MEETING. TEST TOP DRIVE VALVE, I-BOP VALVE, FLOOR VALVE, DART VALVE, PIPE AND BLIND RAMS, INSIDE AND OUTSIDE KILL LINE VALVES INSIDE OUTSIDE CHOKE LINE VALVE, HCR VALVE, CHOKE LINE, CHOKE MANIFOLD VALVES AND CHOKES TO 5000 PSI FOR 10 MINUTES AND 250 PSI FOR 5 MINUTES. TEST ANNULAR TO 2500 PSI FOR 10 MIN AND 250 PSI FOR 5 MINUTES. TESTING CASING TO 1500 PSI FOR 30 MINUTES. (ADD 100% METHANOL TO LINES TO KEEP THEM FROM FREEZING UP)
	22.22	- 23:30	0.50	PRPSPD	14	В	Р	INSTALL THE WEAR BUSHING
10/00/00 10		- 0:00	0.50	PRPSPD	06	Α	Р	PICK UP AND SCRIBED THE DIRECTIONAL TOOLS SURFACE TEST MWD TOOL.
12/28/2012	0:00	- 3:00	3.00	PRPSPD	06	Α	Р	FINISH PICKING UP AND SCRIBE. THEN TRIP WITH THE HEAVY WEIGHT DRILL PIPE. INSTALL ROT RUBBER,PUT ON SAVER SUB.
	3:00	- 4:30	1.50	PRPSPD	09	Α	Р	CUT AND SLIP 39' OF DRILLING LINE.
	4:30	- 7:00	2.50	PRPSPD	06	Α	Р	TRIP IN THE HOLE TAG CEMENT @ 2302"
	7:00 8:00	- 8:00	1.00	DRLPRC	02	F	P	DRILLED THE SHOE TRACK 10-12K WOB 40 RPM 90 STROKES ON PUMP
		- 12:30	4.50	DRLPRC	02	В	P	DRILL SLIDE F/ 2438' TO 2833' ( 395' @87.7 '/HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 15 K.  ROTARY RPM 55, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. OFF/ON PSI 1801/1200. DIFFERENTIAL 524. TORQUE HIGH/LOW . 10000 / 8000 OFF BOTTOM TORQUE 7500 STRING WEIGHT UP/DOWN/ROT 93/82/86. DRAG 7 K.  NOV RUNNING 2 CENTRIFUGES ON DEWATER. WT 8.7 VIS 31. ////// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 50 BBL. FLUID FOR HOLE VOLUME (ADD 100 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE Footage Slide 104.00'=39.4% Rotate 291'= 60.6% Time Slide 1.45 hrs =37.5% Rotate 3.05 hrs =62.5% 6' right 5' low of plan line
		- 13:00	0.50	DRLPRV	07	Α	P	RIG SERVICE
	13:00	- 14:30	1.50	DRLPRV	08	В	Z	CHANGE OUT MOTOR ON SHALE SHAKERS.

4/1/2013

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				Opera	ition §	Summa	ıry Report					
Well: NBU 1022	-1I1BS GREEN	<u>- 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - </u>	<u> </u>	Spud Date: 9/9/2012								
Project: UTAH-l	JINTAH		Site: NBU	J 1022-1I	PAD	***	Rig Name No: PROPETRO 12/12, XTC 12/12					
Event: DRILLIN	G		Start Dat	e: 8/2/201	12		End Date: 1/2/2013					
Active Datum: R Level)	KB @5,120.00usft (ab	ove Mean Se	эа	UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0								
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)					
	14:30 - 18:00	3.50	DRLPRC	02	В	P	DRILL SLIDE F/ 2833' TO 3274' ( 441' @126 '/HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 20 K. ROTARY RPM 65, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. OFF/ON PSI 1520/1300. DIFFERENTIAL 425. TORQUE HIGH/LOW . 7400 / 5000 OFF BOTTOM TORQUE 5000 STRING WEIGHT UP/DOWN / ROT 105/90/84. DRAG 7 K. NOV RUNNING 2 CENTRIFUGES ON DEWATER. WT 8.7 VIS 31. ////////////////////////////////////					

				U	S ROC	KIES RE	GION						
				Opera	tion S	Summa	ry Report						
Well: NBU 1022-	1I1BS GREEN	<u>a kalingan sam</u>	<u> Azerberra</u> e Ceresa,	<u></u>	Spud Date: 9/9/2012								
Project: UTAH-U	INTAH		Site: NBL	J 1022-1I	PAD			Rig Name No: PROPETRO 12/12, XTC 12/12					
Event: DRILLING	)		Start Dat	e: 8/2/201	2			End Date: 1/2/2013					
Active Datum: Rh Level)	KB @5,120.00usft (ab	oove Mean Se	ea	UWI: NI	UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0								
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation					
	18:00 - 0:00	6,00	DRLPRV	02	В	P		DRILL SLIDE F/ 3274' TO 4120' ( 846 ' @141 '/HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 20 K. ROTARY RPM 65, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. OFF/ON PSI 1360/1290. DIFFERENTIAL 349. TORQUE HIGH/LOW . 7400 / 5000 OFF BOTTOM TORQUE 5000 STRING WEIGHT UP/DOWN / ROT 108/89/97. DRAG 1 K. NOV RUNNING 2 CENTRIFUGES ON DEWATER. WT 8.7 VIS 31. ////// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 75 BBL. FLUID FOR HOLE VOLUME (ADD 0 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE FootageFeet% Total846 Slide516.36% Rotate79593.64%  TimeMinHrs% Total 3606 Slide450.7512.50% Rotate3155.2587.50%					

#### **US ROCKIES REGION Operation Summary Report** Well: NBU 1022-111BS GREEN Spud Date: 9/9/2012 Project: UTAH-UINTAH Site: NBU 1022-11 PAD Rig Name No: PROPETRO 12/12, XTC 12/12 Event: DRILLING Start Date: 8/2/2012 End Date: 1/2/2013 Active Datum: RKB @5,120.00usft (above Mean Sea UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0 Level) Date Time Duration Phase Code P/U Sub MD From Operation Start-End (hr) Code (usft) 0:00 - 5:30 12/29/2012 5.50 DRLPRV 02 В Р DRILL SLIDE F / 4120' TO 4918' (798 '@145 '/HR) WEIGHT ON BIT 15-20 K. AVERAGE WEIGHT ON BIT 20 K. **ROTARY RPM 65.** MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. OFF/ON PSI 1534/1831. DIFFERENTIAL 521. TORQUE HIGH/LOW . 7400 / 5000 OFF BOTTOM TORQUE 5000 STRING WEIGHT UP/DOWN / ROT 124/100/107. DRAG 17 K. NOV RUNNING 2 CENTRIFUGES ON DEWATER. WT 9.0 VIS 35. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 100 BBL. FLUID FOR HOLE VOLUME (ADD 100 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE Footage Slide 0' = 0% Rotate 798'= 100% Time

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Slide 0 = 0% Rotate 5.5 hrs = 100% 11' North 9' west of target center

RIG SERVICE

4/1/2013

2:21:13PM

5:30

- 6:00

0.50

DRLPRV

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#### **US ROCKIES REGION Operation Summary Report** Well: NBU 1022-111BS GREEN Spud Date: 9/9/2012 Project: UTAH-UINTAH Site: NBU 1022-1I PAD Rig Name No: PROPETRO 12/12, XTC 12/12 Event: DRILLING Start Date: 8/2/2012 End Date: 1/2/2013 Active Datum: RKB @5,120.00usft (above Mean Sea UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0 Level) Date Time Phase Code P/U Duration Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 17:30 11.50 DRLPRV 02 В Р DRILL SLIDE F / 4918' TO 5975 (1057 '@91.9 '/HR) WEIGHT ON BIT 15-22 K. AVERAGE WEIGHT ON BIT 20 K. **ROTARY RPM 55,** MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. OFF/ON PSI 1730/1400. DIFFERENTIAL 330. TÖRQUE HIGH/LOW . 7400 / 4500 OFF BOTTOM TORQUE 5000 STRING WEIGHT UP/DOWN / ROT 121/107/114. DRAG 7 K. NOV RUNNING 2 CENTRIFUGES ON DEWATER. WT 8.6 VIS 32. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 125 BBL, FLUID FOR HOLE VOLUME (ADD 125 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE FootageFeet% Total1057 Slide706.62% Rotate98793.38% TimeMinHrs% Total 69011.5 Slide851.41666712.32% Rotate60510.0833387.68% 5925' 11' North 14' West of center 17:30 - 18:00 0.50 **DRLPRV** 07 Ρ

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RIG SERVICE

		Opera	tion S	umma	- B						
				<b>WIIIIII</b>	гу кероп						
I: NBU 1022-1I1BS GREEN			Spud Date: 9/9/2012								
ect: UTAH-UINTAH	Site: NBU	1022-11	PAD		<del></del>	Rig Name No: PROPETRO 12/12, XTC 12/12					
nt: DRILLING	Start Date	e: 8/2/201	2			End Date: 1/2/2013					
ve Datum: RKB @5,120.00usft (above Mean Seel)	ea	UWI: NE	UM: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0								
Date Time Duration Start-End (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation					
18:00 - 0:00 6.00	DRLPRV	02	В	P		DRILL SLIDE F / 5975 TO 6371' ( 396' @66 '/HR) WEIGHT ON BIT 15-22 K. AVERAGE WEIGHT ON BIT 20 K. ROTARY RPM 55, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. OFF/ON PSI 1324/1517. DIFFERENTIAL 336. TORQUE HIGH/LOW . 6200 / 6043 STRING WEIGHT UP/DOWN / ROT 132/109/117. DRAG 15 K. NOV RUNNING 2 CENTRIFUGES ON DEWATER. WT 8.6 VIS 31. ///// DRILLING WITH FLOWZAN MUD CHEM //// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 100 BBL. FLUID FOR HOLE VOLUME (ADD 100 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE FootageFeet% Total396 Slide307.58% Rotate3692.42%  TimeMinHrs% Total 3606 Slide500.833333313.89% Rotate3105.16666786.11% 6276' 8' North 14' West					

4/1/2013

2:21:13PM

Welf: NBU 1022-11 IBS GREEN	(2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1		US	S ROCK	KIES REGION	도를 통한 경험에 받는 것이 되는 것이 되었다. 그 등록 한 기를 받는 것이 되었다면 이 그 것이 없었다. 중소설에 하고 있다. 이 중요한 사람이 되었다는 그 그리고 하는 것이 되었다. 그 등로 한 시간이				
Project: UTAH-UINTAH			Opera	tion S	ummary Report					
Event DRILLING	Well: NBU 1022-111BS GREEN	<u> </u>	<u> </u>		Spud Date: 9/9	9/2012				
Event DRILLING	Project: UTAH-UINTAH	Site: NBU	1022-111	PAD		Rig Name No: PROPETRO 12/12, XTC 12/12				
Date	Event: DRILLING	Start Date	e: 8/2/201;	2						
Start-End   (hr)   Code   (usft)		a	UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0							
WEIGHT ON BIT 15-22 K. AVERAGE WEIGHT ON BIT 20 K. ROTARY RPM 55, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. OFF/ON PSI 1468/1669. DIFFERENTIAL 367. TORQUE HIGHLOW. 6210 / 5985 STRING WEIGHT UP/DOWN / ROT 144/111/122. DRAG 22 K. NOV RUNNING 1 CENTRIFUGES ON DEWATER. WT 8.6 VIS 31. ///// DRILLING WITH FLOWZAN MUD CHEM //// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 75 BBL, FLUID FOR HOLE VOLUME (ADD 100 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE Footage 444' Slide-20' = 4.50% Rotate-424' = 95.50% Time Slide-0.75HRS =13.64% Rotate-4.75HRS=86.36%	Start-End (hr)	Phase	Code			Operation				
16' North 13' West of target center 5:30 - 6:00						WEIGHT ON BIT 15-22 K. AVERAGE WEIGHT ON BIT 20 K. ROTARY RPM 55, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. OFF/ON PSI 1468/1669. DIFFERENTIAL 367. TORQUE HIGH/LOW . 6210 / 5985 STRING WEIGHT UP/DOWN / ROT 144/111/122. DRAG 22 K. NOV RUNNING 1 CENTRIFUGES ON DEWATER. WT 8.6 VIS 31. ///// DRILLING WITH FLOWZAN MUD CHEM //// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 75 BBL. FLUID FOR HOLE VOLUME (ADD 100 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE Footage 444' Slide-20' = 4.50% Rotate-424' = 95.50% Time Slide-0.75HRS =13.64% Rotate-4.75HRS=86.36% 16' North 13' West of target center				

#### **US ROCKIES REGION Operation Summary Report** Well: NBU 1022-111BS GREEN Spud Date: 9/9/2012 Project: UTAH-UINTAH Site: NBU 1022-1I PAD Rig Name No: PROPETRO 12/12, XTC 12/12 Event: DRILLING Start Date: 8/2/2012 End Date: 1/2/2013 Active Datum: RKB @5,120.00usft (above Mean Sea UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0 Level) Date Time Duration Phase Code P/U Sub MD From Operation Start-End (hr) Code (usft) 6:00 - 17:30 11.50 DRLPRV 02 В P DRILL SLIDE F / 6815' TO 7658' ( 843 ' @73.3 '/HR) WEIGHT ON BIT 15-25 K. AVERAGE WEIGHT ON BIT 24 K. **ROTARY RPM 55.** MUD MOTOR RPM 108. STROKES PER MINUTE 115 **GALLONS PER MINUTE 518.** OFF/ON PSI 1550/1950. DIFFERENTIAL 400. TORQUE HIGH/LOW . 10500 / 5500 STRING WEIGHT UP/DOWN / ROT 155/127/135. DRAG 20 K. NOV RUNNING 1 CENTRIFUGES ON DEWATER. WT 9.0 VIS 34. ///// DRILLING WITH FLOWZAN MUD CHEM //// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 50 BBL. FLUID FOR HOLE VOLUME (ADD 50 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE 5-10' ON BOTTOMS UP. FootageFeet% Total843 Slide9311.65% Rotate75088,35%

TimeMinHrs% Total 69011.5

RIG SERVICE

Slide1752.91666725.36% Rotate5158.58333374.64%

7608' 14' North 4' West of center target

10

4/1/2013 2:21:13PM

Р

17:30 - 18:00

0.50

**DRLPRV** 

	y . Maryesta gali						7777777	ry Report	1
Well: NBU 1022-	1I1BS GREE	N						Spud Date: 9/9/2	2012
Project: UTAH-U	INTAH			Site: NBU	J 1022-1I	PAD			Rig Name No: PROPETRO 12/12, XTC 12/12
Event: DRILLING	<u> </u>			Start Date	e: 8/2/201	2			End Date: 1/2/2013
Active Datum: Rh Level)	KB @5,120.0	0usft (ab	ove Mean Se	еа	UWI: NI	E/SE/0/10	/S/22/E/1/	0/0/26/PM/S/1826	B/E/0/937/0/0
Date	Time Start-E	nd	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - (	0:00	6.00	DRLPRV	02	В	P		RILL SLIDE F / 7658' TO 8144' ( 486 ' @81 '/HR) WEIGHT ON BIT 15-25 K. AVERAGE WEIGHT ON BIT 24 K. ROTARY RPM 55, MUD MOTOR RPM 108. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. OFF/ON PSI 1922/2260. DIFFERENTIAL 150. TORQUE HIGH/LOW . 8450 / 7825 STRING WEIGHT UP/DOWN / ROT 168/121/139. DRAG 29 K. NOV RUNNING 1 CENTRIFUGES ON DEWATER. WT 9.1 VIS 34. ///// DRILLING WITH FLOWZAN MUD CHEM ///// PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 100 BBL. FLUID FOR HOLE VOLUME (ADD 50 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE 5-15' ON BOTTOMS UP. FootageFeet% Total486 Slide00.00% Rotate486100.00% TimeMinHrs% Total 3606 Slide000.00% Rotate3606100.00%
12/31/2012	0:00 - 8	5:00	5.00	DRLPRV	02	В	P		8050' 12' North 7' West of center target  DRILL SLIDE F / 8144' TO 8362' ( 218 ' @43.6 '/HR)  WEIGHT ON BIT 15-25 K. AVERAGE WEIGHT ON BIT  24 K.  ROTARY RPM 55,  MUD MOTOR RPM 149.  STROKES PER MINUTE 100  GALLONS PER MINUTE 459.  OFF/ON PSI 2353/2798.  DIFFERENTIAL 350.  TORQUE HIGH/LOW . 8450 / 7825  STRING WEIGHT UP/DOWN / ROT 169/122/139.  DRAG 28 K.  NOV OFF LINE  WT 11.5 VIS 40.  ////// DRILLING WITH FLOWZAN MUD CHEM /////  PUMP LCM SWEEPS TO HELP WITH LOSSES.  USED 0 BBL. FLUID FOR HOLE VOLUME  (ADD 0 BBLS OF DRILL WATER TO PITS FOR  VOLUME)  NO FLARE
	5:00 - 5	5:30	0.50	DRLPRV	07	Α	Р		RIG SERVICE

Well, NDU TUZZ-1	I1BS GREEN	1						Spud Date: 9/9/2012					
Project: UTAH-UI	NTAH			Site: NBL	J 1022-1I	PAD			Rig Name No: PROPETRO 12/12, XTC 12/12				
vent: DRILLING	.,,,			Start Date	e: 8/2/201	12			End Date: 1/2/2013				
Active Datum: RK		usft (aho	ove Mean S		_		⊥ /S/22/E/1/	0/0/26/PM/S/182					
.evel)			<b>,,,</b> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-			<b>0.0.20</b>	101001,010				
Date	Time Start-Er	nd	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation				
	5:30 - 11 11:30 - 14 14:30 - 17	1:30	6.00 3.00 3.00	DRLPRV DRLPRV DRLPRV	02 05 06	B C	P P	Justy	DRILL SLIDE F / 8362' TO 8680' ( 318 ' @ 53 '/HR) WEIGHT ON BIT 15-25 K. AVERAGE WEIGHT ON BIT 24 K. ROTARY RPM 55, MUD MOTOR RPM 95. STROKES PER MINUTE 100 GALLONS PER MINUTE 450. OFF/ON PSI 2430/2850. DIFFERENTIAL 420. TORQUE HIGH/LOW 12000 / 8000 STRING WEIGHT UP/DOWN / ROT 170/120/140. DRAG 30 K. NOV OFF LINE WT 11.8 VIS 40. PUMP LCM SWEEPS TO HELP WITH LOSSES. USED 20 BBL. FLUID FOR HOLE VOLUME (ADD 0 BBLS OF DRILL WATER TO PITS FOR VOLUME) NO FLARE BIT POSITION AT TD: 2'N 6'W OF TARGET CENTER CIRCULATE AND CONDITION FOR THE WIPER TRIP MW/11.9 40 VIS WIPER TRIP PUMPED AND ROTATED OUT TO 7800'. TRIPPED OUT TO 5900' FILLED THE PIPE AND TRIPPED BACK IN THE HOLE				
	17:30 - 19	9:30	2.00	DRLPRV	05	С	P		TIGHT SPOT @ 7200' CIRCULATE AND CONDITION FOR THE CASING RUN				
	19:30 - 20	)·00	0.50	DRLPRV	07	Α	Р		10' - 12' FLARE ON BOTTOMS UP				
	20:00 - 0:		4.00	DRLPRV	06	A	P		RIG SERVICE ( REPAIR FILLUP LINE FITTINGS)				
1/1/2013	0:00 - 4:		4.00				r P		LAY DOWN DRILL PIPE TO RUN CASING				
1/1/2013	4.00			DRLPRV	06	A			LAY DOWN DRILL PIPE AND THE BHA				
	•		0.50	DRLPRV	14	B	P		PULL THE WEAR BUSHING				
	4:30 - 6:	:00	1.50	CSGPRO	22	L	Z		***DELAY: (KIMSEY CASING) KIMZEY HAD PROBLEMS STARTING BOTH POWER UNITS AND DELAYED GETTING THE CASING JOB STARTED				
	6:00 - 16		10.50	CSGPRO CSGPRO	12	C D	P		HELD A SAFETY MEETING WITH KIMSEY RU AND RAN 199 TOTAL JTS. OF CASING (83 JOINTS OF 4.5"/11.6# / I-80/ LTC + 2 MARKER) + (113 JTS. OF 4.5"/11.6# / I-80/ DQX) + (1-DQX CROSS OVER). LANDED @ 8657.40', FLOAT COLLAR @ 8610.23', MESA VERDE MARKER @ 6449.00', CROSS OVER JT. @ 4928.47'. CIRCULATED THE CASING ON BOTTOM 80STKS				

	Propagation of the propagation of the contract			U	S ROC	KIES REC	GION					
				Opera	ition S	ummar	ry Report					
Well: NBU 102	22-1I1BS GREEN		<u> </u>			<u> </u>	Spud Date: 9/9/2012					
Project: UTAH	-UINTAH		Site: NBU	1022-11	PAD		Rig Name No: PROPETRO 12/12, XTC 12/12					
Event: DRILLII	NG		Start Date	e: 8/2/201	2		End Date: 1/2/2013					
Active Datum: Level)	ctive Datum: RKB @5,120.00usft (above Mean Se evel)				UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0							
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)					
	22:00 - 23:00 23:00 - 0:00	1.00	CSGPRO	14	E	P	HELD A SAFETY MEETING WTH BJ CEMENTERS PRESSURE TEST TO 4500 PSI. DROPPED THE BOTTOM PLUG, PUMP 25 BBLS OF FRESH WATER. PUMP 166 BBLS (470 SX) OF PREMIUM LITE II LEAD CEMENT,12.5 PPG 1.98 YLD, .05 LB/SACK OF STATIC FREE + .4%BWOC R-3 + .25 LBS/SACK CELLO FLAKE + 5 LBS/SACK KOL-SEAL + .4% BWOC FL-52 + .2%BWOC SODIUM METASILICATE + 6% BWOC BENTONITE + 100.1%FRESH WATER . FOLLOWED BY 219 BBLS (930 SX) OF 14.3 #, 1.32 YD, 5.92 GAL/SK. POZ 50/50 TAIL CEMENT + 2% BWOC BENTONITEII + .005 LB/SACK STATIC FREE + 10% BWOW SODIUM CHLORIDE + .55%BWOC R-3 + .002GPS FP-6L + .75% BWOC SODIUM METASILICATE + 58.8% FRESH WATER . SHUT DOWN AND FLUSH LINES. DROP PLUG AND DISPLACE W/ 134 BBLS OF FRESH WATER TREATED WITH CLAYFIX AND MAGNACIDE. 4 BBLS OF WATER AND NO CEMENT TO SURFACE. LIFT PSI OF 2557 / BUMP PLUG 3344 PSI PRESSURE HELD 5 MINS. FLOAT HELD. FLOW BACK 1.5 BBLS. EST. TOC FOR LEAD 500', EST TOC FOR TAIL 3800'. RIG DOWN CEMENTERS. SET THE PACK OFF					
4 /0 /004 0	23:00 - 0:00	1.00	RDMO	01	E	P -	NIPPLE DOWN PREP THE RIG TO SKID					
1/2/2013	0:00 - 2:00	2.00	RDMO	01	Ē	P	NIPPLE DOWN THE BOP AND CHOKE LINE. RIG RELEASED AT 02:00					

4/1/2013

2:21:13PM

#### 1 General

#### 1.1 Customer Information

	US ROCKIES REGION
Representative	
Address	

#### 1.2 Well/Wellbore Information

UWI	NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937	/0/0	
Spud Date	9/9/2012	Active Datum	RKB @5,120.00usft (above Mean Sea Level)
Start Date	2/20/2013	End Date	3/11/2013
Rig Name/No.		Event	COMPLETION
Project	UTAH-UINTAH	Site	NBU 1022-1I PAD
Report No.	1	Report Date	2/26/2013
Weil Name	NBU 1022-111BS	Wellbore Name	NBU 1022-111BS
Well	NBU 1022-111BS GREEN	Wellbore No.	ОН

#### 1.3 General

Contractor	Job Metho	nod	Supervisor	
Perforated Assembly	Conveyed	d Method		

#### 1.4 Initial Conditions

# 1.5 Summary

Fluid Type		Fluid Density	Gross Interval	6,708.0 (usft)-8,505.0 (usf	Start Date/Time	2/26/2013 12:00AM
Surface Press		Estimate Res Press	No. of intervals	49	End Date/Time	2/26/2013 12:00AM
TVD Fluid Top		Fluid Head	Total Shots	177	Net Perforation Interval	56.00 (usft)
Hydrostatic Press		Press Difference	Avg Shot Density	3.16 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL				Final Press Date	

### 2 Intervals

#### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete	Carr Type /Stage No	Carr Size	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/26/2013 12:00AM	MESAVERDE/		<u> </u>	6,708.0	6,709.0			0,360	EXP/	3.375	120.00			PRODUCTIO N	The state of the s

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T) S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Catr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/26/2013 12:00AM	MESAVERDE/		] (usit)	6,737.0	6,738.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			6,783.0	6,784.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			6,800.0	6,801.0	3.00		0.360	EXP/	3.375	120.00	- A 1870 A 77 TO 1884 CO TO		PRODUCTIO N	
	MESAVERDE/			6,851.0	6,852.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			6,873.0	6,874.0	3.00		0.360	EXP/	3.375	120.00		}	PRODUCTIO N	
	MESAVERDE/			6,884.0	6,886.0	3,00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
	MESAVERDE/			6,914.0	6,915.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
Acres	MESAVERDE/			6,932.0	6,933.0	3.00		0.360	EXP/	3.375	120.00	- Valida - V	23.00	PRODUCTIO N	on do an annual consideration of district and an annual consideration of the constant of the c
*****	MESAVERDE/			6,943.0	6,944.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			7,004.0	7,005.0	3.00		0.360	EXP/	3.375	120.00		į į	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,034.0	7,035.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,098.0	7,100.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			7,183.0	7,184.0	3.00	4 annua 10	0.360	EXP/	3.375	120.00		ì	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,195.0	7,196.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,260.0	7,262.0	4.00		0.360	EXP/	3.375	90.00		*	PRODUCTIO N	
NO. 1	MESAVERDE/	***************************************		7,360.0	7,362.0	4.00	V V V V V V V V V V V V V V V V V V V	0.360	EXP/	3.375	90.00		1	PRODUCTIO N	
	MESAVERDE/			7,462.0	7,463.0	3.00	T management and a second and a	0.360	EXP/	3.375	120.00			PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/	The state of the s		7,474.0	7,475.0	3.00	1	0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
	MESAVERDE/			7,509.0	7,510.0	3.00	NOTE: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0,360	EXP/	3.375	120.00		i	PRODUCTIO N	
	MESAVERDE/	Sec. 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (		7,528.0	7,529.0	3.00		0.360	EXP/	3.375	120.00		i i	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/	1		7,539.0	7,540.0	3.00		0.360	EXP/	3.375	120.00		)	PRODUCTIO N	

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/i Diame		arr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/26/2013 12:00AM	MESAVERDE/		1,(40.0)	7,576.0	7,577.0			360 EXF	21	3.375	120.00			PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,605.0	7,606.0	3.00	0.:	360 EXF	P/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,613.0	7,614.0	3.00	0.3	860 EXF	)	3.375	120.00	1 1 50 Mar 1	23.00	PRODUCTIO N	The second second
2/26/2013 12:00AM	MESAVERDE/			7,638.0	7,639.0	3.00	0.3	860 EXF	)	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,650.0	7,651.0	3.00	0.3	60 EXF	)/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,656.0	7,657.0	3.00	0.3	860 <b>E</b> XF	<b>)</b>	3.375	120,00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,688.0	7,689.0	3.00	0.3	860 EXF	)/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/		***************************************	7,724.0	7,726.0	3.00	0.3	60 EXF	P/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,757.0	7,758.0	3.00	0.3	60 EXF	7/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,795.0	7,796.0	3.00	0.3	60 EXF	1	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,822.0	7,823.0	3.00	0.3	60 EXF	7/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,855.0	7,856.0	3.00	0.3	60 EXF		3.375	120.00	000	23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,867.0	7,868.0	3,00	0.3	60 EXF	)	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,894.0	7,895.0	3.00	0.3	60 EXP	1	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,933.0	7,934.0	3.00	0.3	60 EXP	1	3,375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			7,950.0	7,952.0	3.00	0.3	60 EXP		3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,054.0	8,055.0	3.00	0.3	60 EXP	1	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,123.0	8,124.0	3.00	0.3	60 EXP	1	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,141.0	8,142.0	3.00	0.3	60 EXP	/	3.375	120.00	***************************************	23.00	PRODUCTIO N	7
	MESAVERDE/			8,161.0	8,162.0	3.00	0.3	60 EXP	1	3.375	120.00		23,00	PRODUCTIO N	A CONTRACTOR OF THE PROPERTY O
2/26/2013 12:00AM	MESAVERDE/	A Comment of the Comm		8,177.0	8,178.0	3.00	0,3	60 EXP	/	3.375	120.00	,	23.00	PRODUCTIO N	

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add, Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge, Weight (gram)	Reason	Misrun
2/26/2013 12:00AM	MESAVERDE/			8,196.0	8,198.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,417.0	8,418.0	4.00		0.360	EXP/	3,375	90.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,423.0	8,424.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,430.0	8,431.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,493.0	8,494.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/26/2013 12:00AM	MESAVERDE/			8,504.0	8,505.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

#### 3 Plots

### 3.1 Wellbore Schematic



Well: NBU 1022-	-111BS G	REEN						Spud Date: 9/9/20	012	
Project: UTAH-U	IINTAH			Site: NBU	1022-1I	PAD	-		Rig Name No: SWABBCO 6/6	
Event: COMPLE	TION			Start Date	e: 2/20/20	113			End Date: 3/11/2013	
Active Datum: R Level)	KB @5,	120.00usft (ab	ove Mean S	ea	UWI: NE	E/SE/0/10	)/S/22/E/1	/0/0/26/PM/S/1826/	/0/937/0/0	
Date	s	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation	
2/21/2013	8:30	- 9:30	1.00	SUBSPR	33	С	Р		FILL SURFACE CSG. MIRU CAMERON QUICK TEST. PRESSURE TEST CSG & FRAC VALVES 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 73 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.	
2/22/2013	9:00	- 14:00	5.00	SUBSPR	37		P	, !	PRESSURE TEST 8 5/8 X 4 1/2 TO 513 PSI HELD FOR 5 MIN LOST -63 PSI,BLED PSI OFF, REINSTALLED POP OFF SWIFN	
	6:30							:	PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWIFW	
2/26/2013		- 7:00 - 17:30	0.50	FRAC	48		P		JSA-SAFETY MEETING	
	7.00	- 17.30	10.50	FRAC	36	В	Р		PRESSURE TEST SURFACE LINE 8032#, LOST 16# IN 15 MIN, (90 MIN TO PRESSURE TEST)	
								,	1.REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUME, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELL, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT.	
									( FRAC STG #1) WHP = 1574#, BRK DN PERFS = 4495#, @ 4.8 BPM, ISIP = 2250#, FG = 0.70 , FINAL ISIP = 2567#, FINAL FG = 0.74	
								:	( FRAC STG #2) WHP = 1687#, BRK DN PERFS = 3137#, @ = 4.8 BPM, ISIP = 2270#, FG = 0.72, FINAL ISIP = 2578 #, FINAL FG = 0.76,	
								:	(FRAC STG #3) WHP = 786#, BRK DN PERFS = 3836#, @ 4.9 BPM, ISIP = 2011#, F.G = 0.69 , FINAIL ISIP = 2281 #, FINIAL F.G. = 0.73, SWI	

							EGION ary Report
Well: NBU 1022-	-1I1BS GREEN		<u></u>				Spud Date: 9/9/2012
Project: UTAH-U	JINTAH		Site: NBL	J 1022-1I	PAD		Rig Name No: SWABBCO 6/6
Event: COMPLE	TION		Start Date	e: 2/20/20	 013		End Date: 3/11/2013
Active Datum: Ri	KB @5,120.00u	sft (above Mean S	ea	UWI: N	E/SE/0/10	)/S/22/E/	1/0/0/26/PM/S/1826/E/0/937/0/0
Date	Time Start-End	1 1	Phase	Code	Sub Code	P/U	MD From Operation (usft)
2/27/2013	6:30 - 7:0		FRAC	48		P	1.REFER TO STIMULATION PJR FOR FLUID, SAND AND CHEMICAL VOLUME, ALL STAGES WERE PERFORATED ACCORDING TO PERF RECORD IN OPEN WELL, ALL STAGES WERE STIMULATED TO VENDOR POST JOB REPORT.  (FRAC STG #4) WHP = 1556#, BRK DN PERFS = 3077#, @ 5.1 BPM, ISIP = 1785#, FG = 0.67, FINAL ISIP = 2191#, FINAL FG = 0.72,  (FRAC STG #5) WHP = 1869#, BRK DN PERFS = 2345#, @ = 7.5 BPM, ISIP = 1942#, F G = 0.70, FINAL ISIP = 2217 #, FINAL F G = 0.73,  (FRAC STG #6) WHP = 1473#, BRK DN PERFS = 6274#, @ 5.8 BPM, ISIP = 1615 #, F G = 0.66, FINAL ISIP = 2385#, FINAL F G = 0.77, SWI
2/28/2013	6:45 - 7:0 7:00 - 15:3		FRAC FRAC	48 36	В	PP	HSM, RIGGING DOWN, PINCH POINTS  (FRAC STG #7) WHP = 1,350#, BRK DN PERFS = 2,904#, @ =4.8 BPM, ISIP =1,666 #, F G = 0.66, FINAL ISIP = 1,970#, FINAL F G = 0.72,  (FRAC STG #8) WHP = 1,104 #, BRK DN PERFS = 1,465#, @ 6.4 BPM, ISIP = 1,178 #, F G = 0.61, FINAL ISIP = 1,975 #, FINAL F G = 0.73,  (KILL PLUG) P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @ =6,658' R/D WIRELINE AND FRAC CREW, SHUT WELL IN,
3/8/2013	12:00 - 17:0		DRLOUT	44	С	Р	TOTAL SAND PUMP'D =164,748# MIRU, NDWH, NU BOP'S, PU BIT, POBS, SN, TIH TBG 181 JTS, 57921' EOT, SWIFWE
3/11/2013	7:00 - 7:3	0 0.50	DRLOUT	48		Р	POBS

		U	S ROC	CKIES RE	GION					
		Opera	ition :	Summa	ry Report					
Well: NBU 1022-1I1BS GREEN				<u> </u>	Spud Date: 9/9	9/2012				
Project: UTAH-UINTAH	Site: NBL	J 1022-1I	PAD			Rig Name No: SWABBCO 6/6				
Event: COMPLETION	Start Date	e: 2/20/20	013			End Date: 3/11/2013				
Active Datum: RKB @5,120.00usft (above Mean S Level)	Sea	UWI: NE/SE/0/10/S/22/E/1/0/0/26/PM/S/1826/E/0/937/0/0								
Date Time Duration Start-End (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation				
7:30 - 16:30 9.00	DRLÓUŤ	44	С	P		TIH 29 JTS, TAG PLUG#1, BREAK CIRC, TEST BOP'S, 3000#, MILL 8 CBP'S, 259 JTS, 8228',C/O 40' SAND,TO PBTD, 271 JTS, 8610', POOH TO 8010.68', 252 JTS, LAND TBG, ND BOP'S, NUWH, POBS, 1200#, PRESSURE TEST FLOW LINE 3000#, RDMO TO NBU 1022-1H4CS  TURNED TO PROD 3:30 PM  PLUG# 1 6658' 10 'SAND 5 MIN 50# KICK PLUG# 2 6904' 20 SAND 5 MIN 50# KICK PLUG# 3 7130' 25' SAND 5 MIN 100# KICK PLUG# 4 7392' 25' SAND 5 MIN 100# KICK PLUG# 5 7628' 20' SAND 5 MIN 200# KICK PLUG# 6 7812' 20' SAND 5 MIN 150# KICK PLUG# 7 7982' 35' SAND 5 MIN 100# KICK PLUG# 8 8228' 20' SAND 5 MIN 50# KICK PLUG# 8 8228' 20' SAND 5 MIN 50# KICK				
						PBTD 8610' BTM PERF 8505'  TBG 252 JTS 7992.65'  KB 15.00'				
						HANGËR 4.125" .83'				
						ŠN 1.875" 2.20'				
						EOT 8010.68'				
						FRAC WTR 8,134 BBLS				
						RCVD 2,400 BBLS				
						LTR 5,734 BBLS				

Project: UTAH - UTM (feet), NAD27, Zone 12N Site: UINTAH\_NBU 1022-1I PAD

Well: NBU 1022-111BS Wellbore: Wellbore #1 Design: NBU 1022-111BS (wp01) Latitude: 39.975713

+E/-W 0.00

+N/-S 0.00

Longitude: -109.381476 GL: 5105.00 KB: 15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

#### FORMATION TOP DETAILS

TVDPath 1136.00 1399.00 1855.00 4174.00 4774.00 6360.00 8532.00 MDPath 1147.92 1425.96 1912.87 4306.86 4906.87 6492.90 8664.94

Formation GREEN RIVER BIRDS NEST MAHOGANY MARKER WASATCH INTERCEPT MESAVERDE SEGO

WELL 0	DETAILS: NBU 1022-11	1BS	
Grou	ind Level: 5105.00	0	
Northing 14521316.05	Easting 2093868.95	Latittude 39.975713	Longitude -109.381476

	CASING D	ETAILS	
TVD	MD	Name	
2312.36	2396.91	8-5/8"	

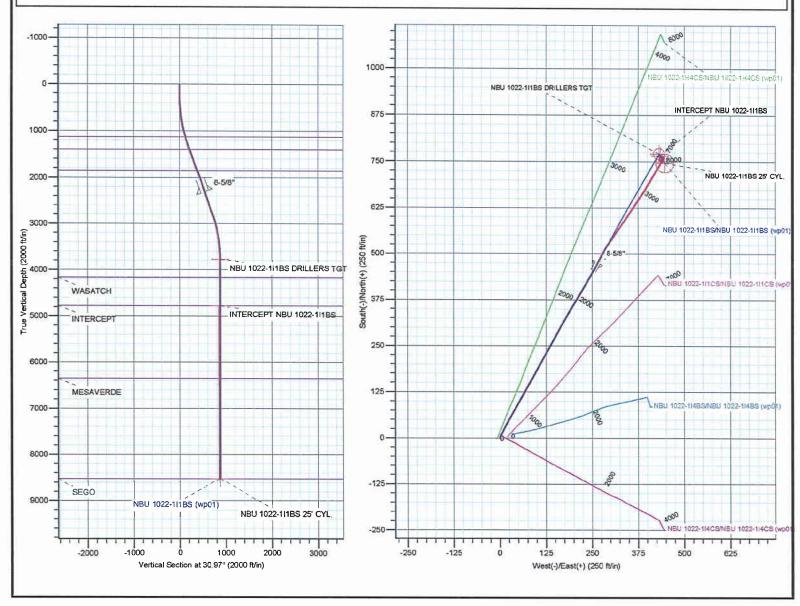


Azimuths to True North Magnetic North: 10.84°

Φ	Dip Angle: 65.83° Date: 11/12/2012 Model: IGRF2018

			DESIGN TA	ARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
NBU 1022-111BS DRILLERS TGT	3773.90	771.54	431.92	14522095.30	2094286.80	39.977831	-109.379935	Circle (Radius: 15.00)
INTERCEPT NBU 1022-111BS	4774.00	766.56	435.15	14522090.38	2094290.12	39.977818	-109.379923	Point
NBU 1022-111BS 25 CYL.	8532.00	746.65	448.07	14522070.71	2094303.39	39.977763	-109.379877	Circle (Radius: 25.00)

	SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
2373.00	19.17	28.79	2289.78	468.55	261.60	0.00	0.00	536.37	
2918.00	19.17	28.79	2804.56	625.40	347.79	0.00	0.00	715.20	
2978.50	18.57	30.00	2861.81	642.44	357.39	1.19	147.11	734.76	
3906.75	0.00	0.00	3773.90	771.54	431.92	2.00	180.00	883.81	
4027.36	0.36	147.04	3894.51	771.22	432.13	0.30	147.04		
8664.94	0.36	147.04	8532.00	746.65	448.07	0.00			
							147.04 0.00	883.65 870.78	



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 1022-1I PAD NBU 1022-1I1BS

Wellbore #1

Design: NBU 1022-111BS ACTUAL

# **Standard Survey Report**

03 January, 2013

Survey Report

Company: US ROCKIES REGION PLANNING Project: UTAH - UTM (feet), NAD27, Zone 12N Site: UINTAH\_NBU 1022-1I PAD Well: NBU 1022-111BS Wellbore: Wellbore #1

NBU 1022-111BS ACTUAL

Local Co-ordinate Reference: **TVD Reference:** MD Reference: North Reference: Survey Calculation Method: Database:

Well NBU 1022-111BS

15' RKB + 5105' GL @ 5120.00ft (Xtreme 12) 15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

Minimum Curvature

edmp

UTAH - UTM (feet), NAD27, Zone 12N

Map System: Geo Datum:

Map Zone:

Design:

Project

Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS)

Zone 12N (114 W to 108 W)

System Datum:

Mean Sea Level

Site UINTAH\_NBU 1022-1I PAD, Sec.1-T10S-R22E

Site Position: From:

Position Uncertainty:

Lat/Long 0.00 ft Northing: Easting: Slot Radius: 14,521,322.42 usft 2,093,898.54 usft 13-3/16 "

Latitude: Longitude: **Grid Convergence:** 

39.975729 -109.381370 1.04 °

Well NBU 1022-111BS

+N/-S

Well Position

0.00 ft +E/-W 0.00 ft

Northing: Easting:

14,521,316.05 usft 2,093,868.95 usft

Latitude: Longitude:

39.975713 -109.381476 5,105.00 ft

**Position Uncertainty** 

0.00 ft Wellhead Elevation:

ft **Ground Level:** 

	IGRF2010	11/12/2012	10.84	65.83	52,191
Magnetics Mo	del Name :	Sample Date	Declination D	ip Angle F (°)	leld Strength (nT)
Wellbore Wellbo		ะเกอบอาเครียงเอาสารสารสารสารสารสารสารสารสารสารสารสารสาร	ing. Distriction of the Committee of States of the Committee of the Committee of the Committee of the Committee of t		en e

Design NBU 1022-111BS ACTUAL **Audit Notes:** Version: 1.0 Phase: **ACTUAL** Tie On Depth: 11.00 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (°) 246.00 0.00 0.00 30,51

2,473.00	8,680.00 Survey #2 (Wellbore #1)	MWD	MWD - STANDARD	
188.00	2,373.00 Survey #1 (Wellbore #1)	MWD	MWD - STANDARD	
Survey Program From (ft)	Date 1/3/2013 To (ft) Survey (Wellbore)	Tool Name	Description	

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)		Azimuth (°)		+N/-S (ft)		Section (ft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
188.00	0.44	37.85	188.00	0.54	0.42	0.67	0.25	0.25	0.00
272.00	1.07	359.34	271.99	1.58	0.61	1.67	0.92	0.75	-45.85
354.00	2.02	16.23	353.96	3.73	1.00	3.72	1.27	1.16	20.60
445.00	2.89	22.49	444.88	7.39	2.33	7.55	1.00	0.96	6.88
535.00	4.31	26.60	534.70	12.51	4.71	13.17	1.60	1.58	4.57
625.00	6.33	27.56	624.30	19.93	8.52	21.50	2.25	2.24	1.07
715.00	7.74	27.39	713.62	29.71	13.60	32.50	1.57	1.57	-0.19
805.00	9.82	28.52	802.57	41.84	20.06	46.23	2.32	2.31	1.26
895.00	11.78	28.97	890.97	56.62	28.17	63.08	2.18	2.18	0.50

Survey Report

Company: Project: US ROCKIES REGION PLANNING

Site:

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 1022-1I PAD

Site: Well:

NBU 1022-111BS Wellbore #1

Wellbore: Design:

NBU 1022-111BS ACTUAL

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 1022-111BS

15' RKB + 5105' GL @ 5120.00ft (Xtreme 12) 15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

True

Minimum Curvature

edmp

Measured			Vertical		organismi (1965) Sastania	Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
				2.515.49600.515.5					
985.00	13.89	30.64	978.71	73.95	38.13	83.07	2.38	2.34	1.86
1,075.00	15.04	29.85	1,065,86	93.38	49,45	105.55	1.30	1.28	-0.88
1,165.00	17.06	28.97	1,152.35	115.06	61.65	130.43	2.26	2.24	-0.98
1,255.00	18.89	29.47	1,237.95	139.29	75.22	158.19	2.04	2.03	0.56
1,345.00	19.79	28,88	1,322.87	165.32	89.74	187.99	1.02	1.00	-0.66
1,435.00	20.03	27.61	1,407.49	192.32	104.24	218.61	0.55	0.27	-1.41
1,525.00	19.70	29.67	1,492.14	219.16	118.90	249,18	0.86	-0.37	2.29
1,615.00	20.58	29.94	1,576.63	246.04	134.30	280.16	0.98	0.98	0.30
1,705.00	21.37	28.44	1,660.67	274.17	150,00	312.37	1.06	0.88	-1.67
1,795.00	20,66	29.32	1,744.68	302.43	165.59	344.63	0.86	-0.79	0.98
1,885.00	20.58	29.41	1,828.92	330.06	181.13	376.32	0.10	-0.09	0.10
1,975.00	20.93	31.34	1,913.08	357.57	197.26	408.21	0.85	0.39	2.14
2,065.00	19.26	31.70	1,997.60	383.93	213.42	439.12	1.86	-1.86	0.40
2,155.00	18.47	30.99	2,082.76	408,78	228.56	468.22	0.91	-0.88	<b>-</b> 0.79
2,245.00	17.76	27.92	2,168.30	433,13	242.33	496.19	1.32	-0.79	-3.41
2,335.00	18.55	28.88	2,253.82	457.79	255.67	524.21	0.94	0.88	1.07
2,373.00	19.17	28.79	2,289.78	468.55	261.60	536.49	1.63	1.63	-0.24
TIE ON									
2,473.00	17.13	26.58	2,384.80	496.12	276.10	567.60	2.15	-2.04	-2.21
2,562.00		22.00	0.460.60	F40.F0	000.54				
2,651.00	18.24 19.82	32,98 35,02	2,469.60	519.53	289.54	594.59	2.51	1.25	7.19
2,031.00	19.02	30,02	2,553.74	543.57	305.79	623.55	1.93	1.78	2.29
2,739.00	20.88	34.74	2,636.24	568.67	323.28	654.06	1.21	1.20	-0.32
2,822.00	20.94	33.74	2,713.78	593.16	339.95	683.62	0.44	0.07	-1.20
2,916.00	19.69	32.99	2,801.93	620,41	357.90	716.21	1.36	-1.33	-0.80
3,005.00	17.88	34.11	2,886.18	644.30	373.73	744.83	2.07	-2.03	1.26
3,093.00	15.50	33.86	2,970.47	665.26	387.86	770.06	2.71	-2.70	-0.28
3,181.00	13.75	31.36	3,055.62	683.95	399,85	792.25	2.11	-1.99	-2.84
3,268.00	12.63	29.11	3,140.32	701.09	409.86	812.10	1.42	-1.29	-2.59
3,357.00	10.40	30.11	3,227.52	716.54	418.63	829.86	2.52	-2.51	1,12
3,447.00	8.25	30.61	3,316.33	729.13	425.99	844.45	2.39	-2.39	0.56
3,536.00	6.19	33.11	3,404.62	738,65	431.86	855.63	2.34	-2.31	2.81
3,624.00	4.50	31.74	3,492.23	745.56	436.27	863.82	1.93	-1.92	-1.56
3,713.00	3.56	30.86	3,581.01	750.90	439.53	870,07	1.06	-1.06	-0.99
3,803.00	2.56	23.11	3,670.88	755.14	441.75	874.86	1.20	-1.11	-8.61
3,892.00	1.56	17.36	3,759.82	758.13	442.89	878.01	1.15	-1.12	-6.46
3,981.00	0.94	5.99	3,848.80	760.01	443.33	879.85	0.75	-0.70	-12.78
4,070.00	0.44	335.11	3,937.80	761.05	443.26	880.71	0.68	-0.56	-34.70
4,158.00	0.38	264.24	4,025.79	761.32	442.83	880.73	0.54	-0.07	-80.53
4,247.00	0.31	256,36	4,114.79	761.24	442.30	880.39	0.09	-0.08	-8.85
4,337.00	0.44	218.61	4,204.79	760.91	441.85	879.88	0.30	0.14	-41.94
4,426.00	0.31	223,86	4,293.79	760.47	441.47	879.30	0.15	-0.15	5.90
4,516.00	0.44	216.11	4,383.79	760.02	441.10	878.72	0.15	0.14	-8.61

Survey Report

Company: Project: US ROCKIES REGION PLANNING

Site: Well: UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_NBU 1022-1I PAD

II: NBU 1022-111BS

Wellbore: Design: Wellbore #1

NBU 1022-111BS ACTUAL

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 1022-111BS

15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

True

Minimum Curvature

edmp

Measured	1 AGING		Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft).	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
4,603.00	0.44	219.86	4,470.78	759.49	440.68	878.06	0.03	0.00	4.31
4,691.00	0.63	212.86	4,558.78	758.82	440.21	877.24	0.23	0.22	-7.95
4,780.00	0.81	208.99	4,647.77	757.86	439.64	876.13	0.21	0.20	-4.35
4,868.00	0.88	202.99	4,735.76	756.70	439.07	874.84	0.13	80.0	-6.82
4,957.00	1.21	201.27	4,824.75	755,19	438.46	873.23	0.37	0.37	-1.93
5,045.00	1.38	198.24	4,912.73	753.32	437.79	871.28	0.21	0.19	-3.44
5,133.00	0.81	205,36	5,000.71	751.75	437.20	869.62	0.66	-0.65	8.09
5,220.00	0.75	236.36	5,087.70	750.88	436.46	868.50	0.48	-0.03	35.63
5,308.00	1.31	339.86	5,175.69	751.50	435,63	868.62	1.88	0.64	117.61
5,396.00	1,25	350.24	5,263.67	753.40	435.12	869.99	0.07	0.07	44.00
5,485.00	1.00	355.00	5,352.65	755.40 755.13			0.27	-0.07	11.80
5,571.00	0.69	343.61	5,332.65	755.13 756.37	434.89 434.68	871.36 872.33	0.30	-0.28	5.35
5,661.00	0.09	349.99	5,436.65	755.37 757.18	434.68	872.33 872.92	0.41	-0.36	-13.24
5,750.00	0.06	15.11	5,528.04 5,617.64	757.16 757.52	434.47	872.92 873.19	0.35 0.37	-0.34 -0.36	7.09
5,100,00	0,00	10.11	0,017.04	101,02	404.40	0/3.18	U.3/	-0,36	28.22
5,836.00	0.13	287.11	5,703.64	757.59	434.35	873.21	0.16	0.08	-102.33
5,925.00	0.25	226.74	5,792.64	757.49	434.12	873.00	0.24	0.13	-67.83
6,012.00	0.43	183.54	5,879.64	757.03	433,96	872.53	0.35	0.21	-49.66
6,100.00	0.50	183.86	5,967.64	756.32	433.91	871.89	0.08	0.08	0.36
6,189.00	0.50	182.11	6,056.63	755.54	433.87	871.20	0.02	0.00	-1.97
6,276.00	0.81	154.74	6,143.63	754.61	434.12	870.52	0.50	0.36	-31.46
6,365.00	0.56	38.61	6,232.62	754.38	434.66	870.60	1.31	-0.28	-130.48
6,455.00	1.81	357.49	6,322.60	756.14	434.87	872.23	1.60	1.39	-45.69
6,543.00	1.81	355.61	6,410.56	758.92	434.70	874.53	0.07	0.00	-2.14
6,630.00	1.63	357.24	6,497.52	761.52	434.54	876.69	0.21	-0.21	1.87
6,720.00	1.00	48.61	6,587.50	763,32	435.07	878.51	1.41	-0.70	57.08
6,809.00	1.00	57.61	6,676.49	764.25	436,31	879,94	0.18	0.00	10.11
6,898.00	0.88	66.24	6,765.47	764.94	437.59	881.19	0.10	-0.13	9.70
6,986.00	0.81	100.74	6,853.46	765.10	438.82	881.95	0.57	-0.13	39.20
7,075.00	1.06	122.24	6,942.45	764.54	440.13	882.13	0.48	0.28	24.16
7.165.00	1.31	123.36	7,032.43	763.53	441.69	882.06	0.28	0.28	1.24
7,100.00	1.68	119.24	7,121.40	762.34	443.68	882.04	0.43	0.28	-4.63
7,343.00	1.06	135.11	7,210.38	761.11	445.40	881.86	0.43	-0.70	-4.03 17.83
7,432.00	0.50	274.36	7,299.37	760,56	445.60	881.48	1.66	-0.70	156,46
7,520.00	0.81	288.61	7,387.37	760.79	444.62	881.18	0.40	0.35	16.19
7,608.00	0.63	254.99	7,475.36	760.06	440 E7	900.74	0.54	2.22	20.00
7,695.00	0.56	234.99	7,475.36 7,562.36	760.86 760.42	443.57 442.83	880.71 879.95	0.51	-0.20	-38,20
7,785.00	0.38	218.11	7,562.36 7,652.35	759.85	442.83	879.95 879.22	0.41 0.20	-0.08 -0.30	-39.08 3.30
7,785.00	0.50	221.11	7,052.35 7,740.35	759.85 759.33	442.35 441.92	879.22 878.55	0.20	-0.20	-3.20 3.41
7,962.00	0.30	196.11	7,740.35 7,829.35	759.33 758.71	441.92 441.57	877.84		0.14 -0.07	3.41
7,302.00	0.74	130.11	7,020.00	7 30.7 1	441.0/	017.04	0.24	-0.07	-28.09
8,050.00	0.50	178.49	7,917.34	758.00	441.49	877.19	0.18	0.07	-20.02
8,138.00	1.00	176.74	8,005.34	756.85	441.54	876.22	0.57	0.57	-1.99
8,225.00	1.19	180.11	8,092.32	755.19	441.58	874.81	0.23	0.22	3.87
8,315.00	1.31	182.36	8,182.30	753.23	441.54	873.10	0.14	0,13	2.50
8,403.00	1.19	17.99	8,270.29	753.09	441.78	873.10	2.81	~0.14	-186.78

Survey Report

Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site:

UINTAH\_NBU 1022-1I PAD

Well:

NBU 1022-111BS

Wellbore #1

Wellbore: Design:

NBU 1022-111BS ACTUAL

Local Co-ordinate Reference:

TVD Reference:

Database:

Well NBU 1022-111BS

15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

MD Reference:

15' RKB + 5105' GL @ 5120.00ft (Xtreme 12)

North Reference:

True

Survey Calculation Method:

Minimum Curvature

edmp

Measured			Vertical			Vertical	Dogleg	Build	Turn
	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(*)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
8,491.00	1.19	184.99	8,358.29	753.05	441.98	873.17	2.69	0.00	189.77
8,580.00	1,25	188.11	8,447.27	751.17	441.76	871,44	0.10	0.07	3.51
8,630.00	1.31	193.49	8,497.25	750.07	441.55	870.39	0.27	0.12	10.76
LAST MWD S	URVEY								
8,680.00	1.31	193.49	8.547,24	748.96	441.29	869.30	0.00	0.00	0.00

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10 10			
Checked By:	Approved By:	Doto	
Circonca by.	Approved by.	Date:	